

THE FAR EASTERN REVIEW

COMMERCE :: ENGINEERING :: FINANCE

VOL. XI.

SHANGHAI, JANUARY, 1915

No. 8

"Most modern wars may be ultimately traced to national antipathies which have been largely created by newspaper invectives and the gross partiality of newspaper representations."
LECKY'S "England in the Eighteenth Century"

ROADS TOWARDS PEACE

AN EXPOSITION OF THE FUNDAMENTAL COMMERCIAL PROBLEMS WHICH MAKE FOR NATIONAL DISCORD AND STRIFE.

WITH SPECIAL REFERENCE TO

THE ACTIVITIES OF OFFICIAL TRADE ORGANIZATIONS IN CHINA.

THE ELIMINATION OF THE GERMAN "BLIGHT."

THE RELATION OF CHINA TO THE WAR IN EUROPE.

By Geo. Bronson Rea.

The FAR EASTERN REVIEW has endeavored to maintain an impartial attitude and observe strict neutrality in thought and deed concerning the war in Europe and the issues at question. We hold very decided opinions as to the underlying issues of the war, and our sympathies may be with one or the other of the opposing sides, but no matter how emphatic our political convictions, or sincere our friendships, we cannot permit pure sentiment to influence our editorial policy, or close our eyes to certain broad phases of the great contest.

We hold to the firm conviction that there are fundamental issues involved in this tremendous life and death struggle between the protagonists of our common civilization, that have a most important bearing on the present and future happiness and welfare of the American people, and the preservation of traditional friendships with other nations. There are vital basic principles at stake on the outcome of the war, affecting not only the future of the belligerent States, but more particularly the well-being of America and the maintenance and solidification of those common ties which unite the two great Anglo-Saxon peoples.

In obedience to the proclamation of the President of the country to which we owe allegiance, we have been silent on many matters, but these questions are so vital, so pregnant with future discord and so inimical to the preservation of harmonious intercourse and complete understanding, that we feel impelled to rise above the level of country, cast aside our shackles of

neutrality, and present our thoughts as a free and independent being. It is possible that we may be misconstrued, but our facts are such that if read in the same spirit of fairness that they are written, we cannot be misunderstood.

Between America and Britain there must always arise questions and disputes, but no matter how grave these issues, or how strained the relations may become, the time is forever past when these two nations will resort to the sword as the final arbiter of national dissensions. Blood is thicker than water, and in the final analysis, blood will tell. Mr. Bryan, the American Secretary of State, replied in response to the Japanese Ambassador last May, when the latter asked if his words were final on the California land dispute, "There can be no last word between friends." If this is the attitude America assumes towards a friend of fifty years standing, a friend of another race, another color, and opposite religious and political creeds, it proclaims loudly to the world that nothing can come between the two peoples, whose language, ideals, thoughts and blood spring from a common source. There can be no last word between friends, nor can there ever again arise any conceivable difficulty between America and Britain which cannot be solved by frank discussion and arbitration. Britain and America understand each other. The pride Americans take in their own country makes them respect that from which they sprang. Notwithstanding the great influx of immigrants from other European countries, with the

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BY GEO. BRONSON REA

NEUTRAL THOUGHTS ON THE NEUTRALIZATION OF CHINA
THE SELECTION OF ADVISERS

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THE FAR EASTERN REVIEW
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2
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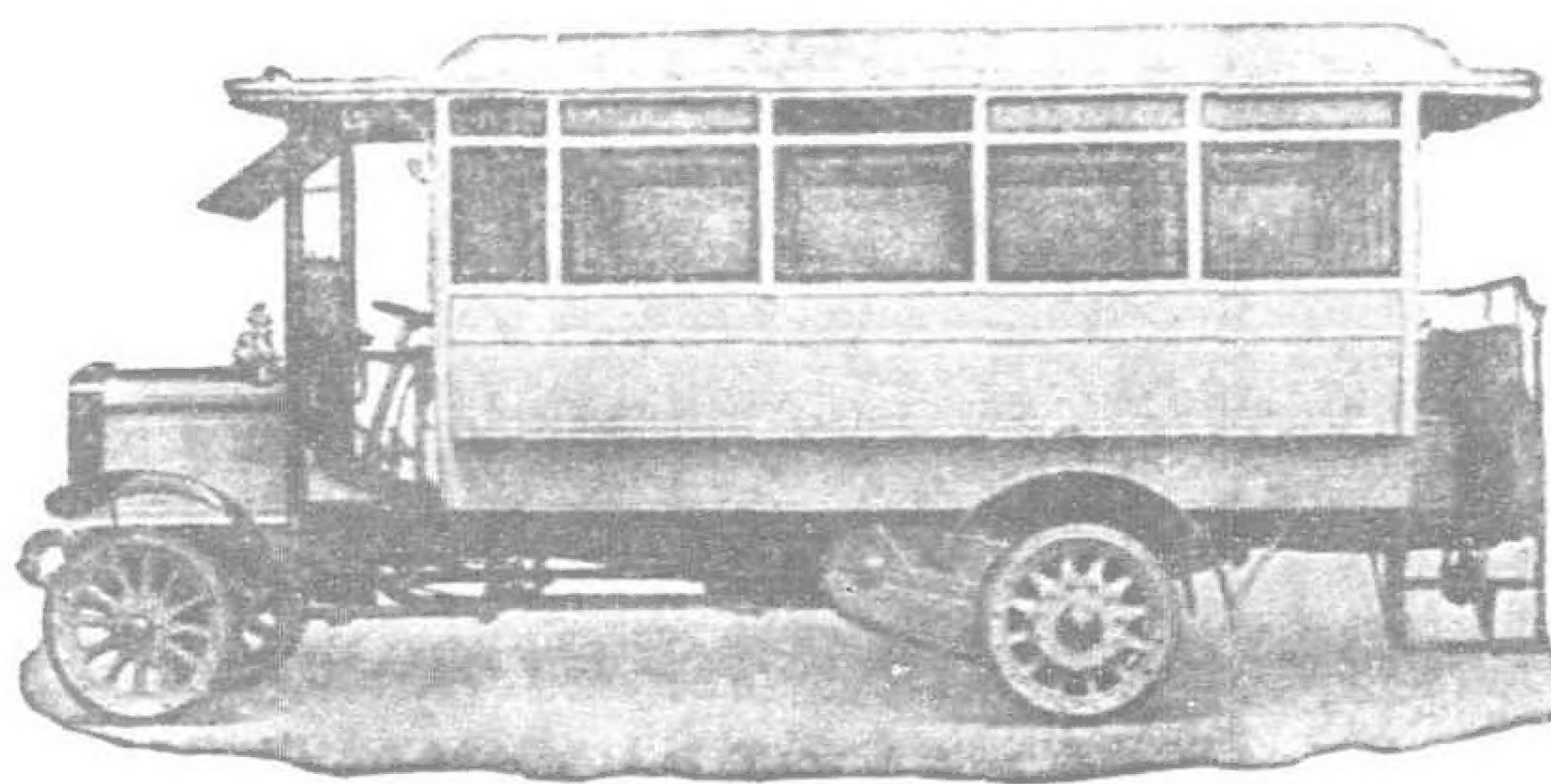
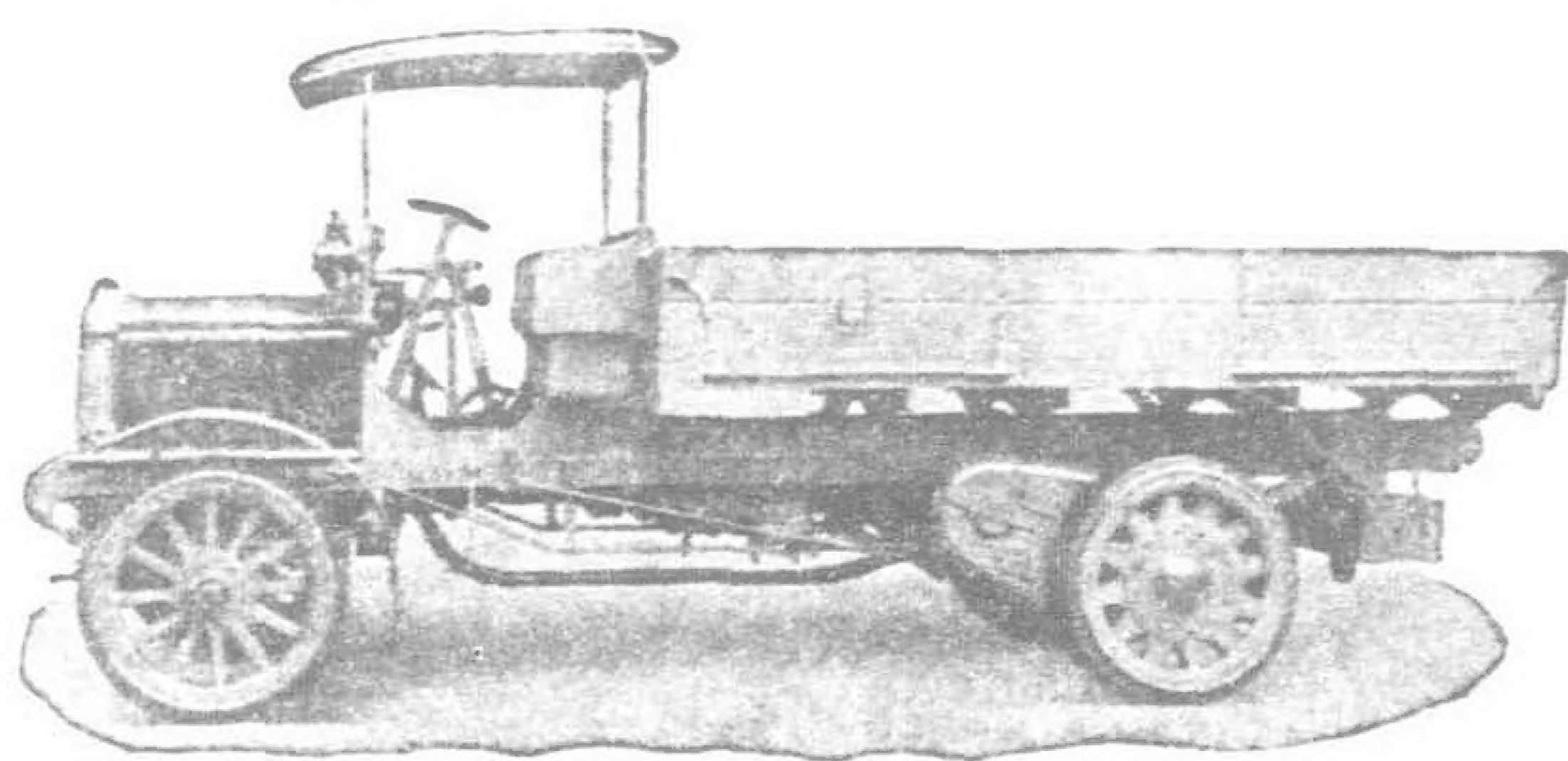


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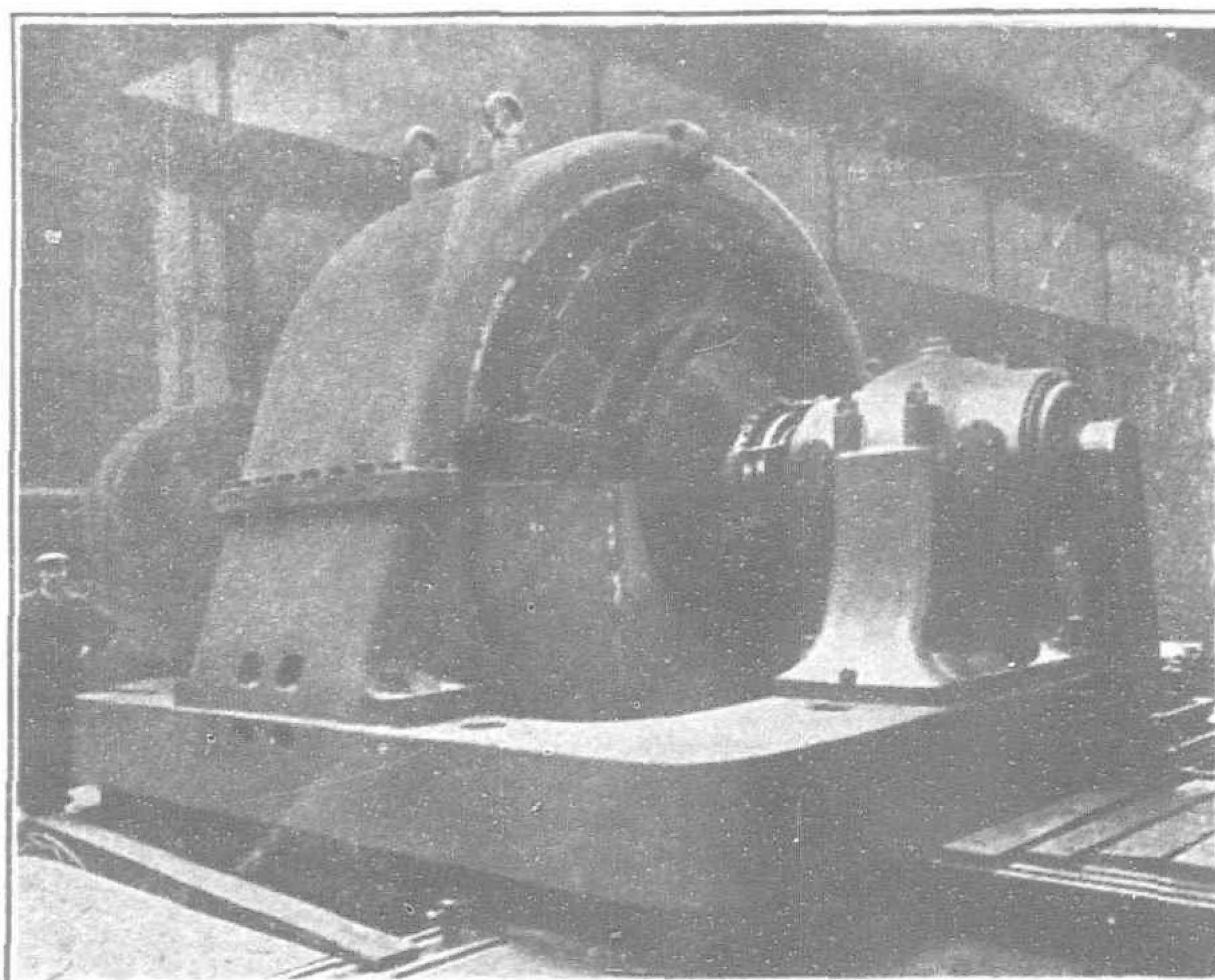
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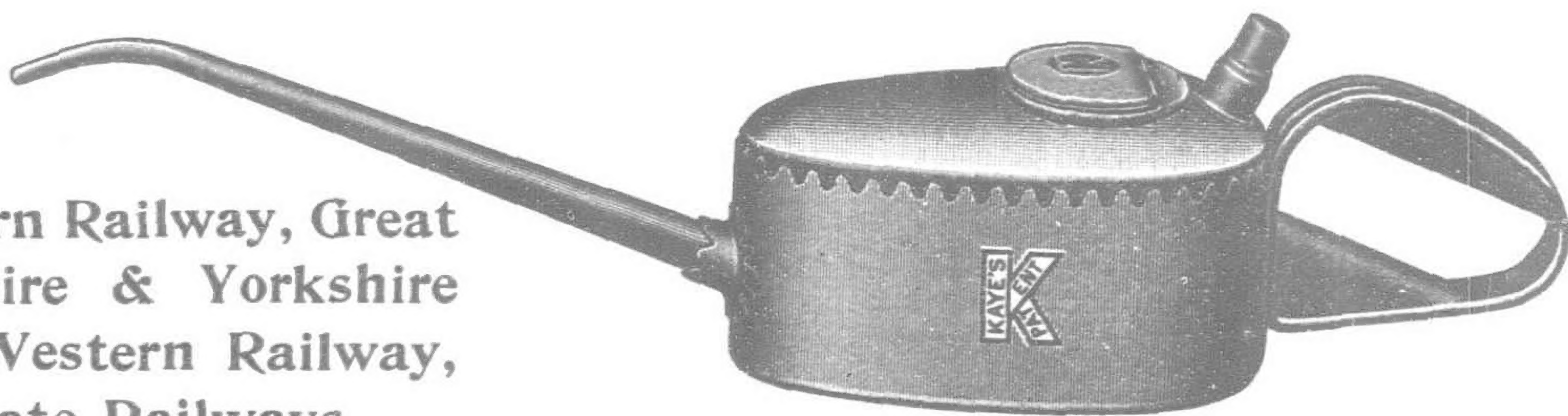
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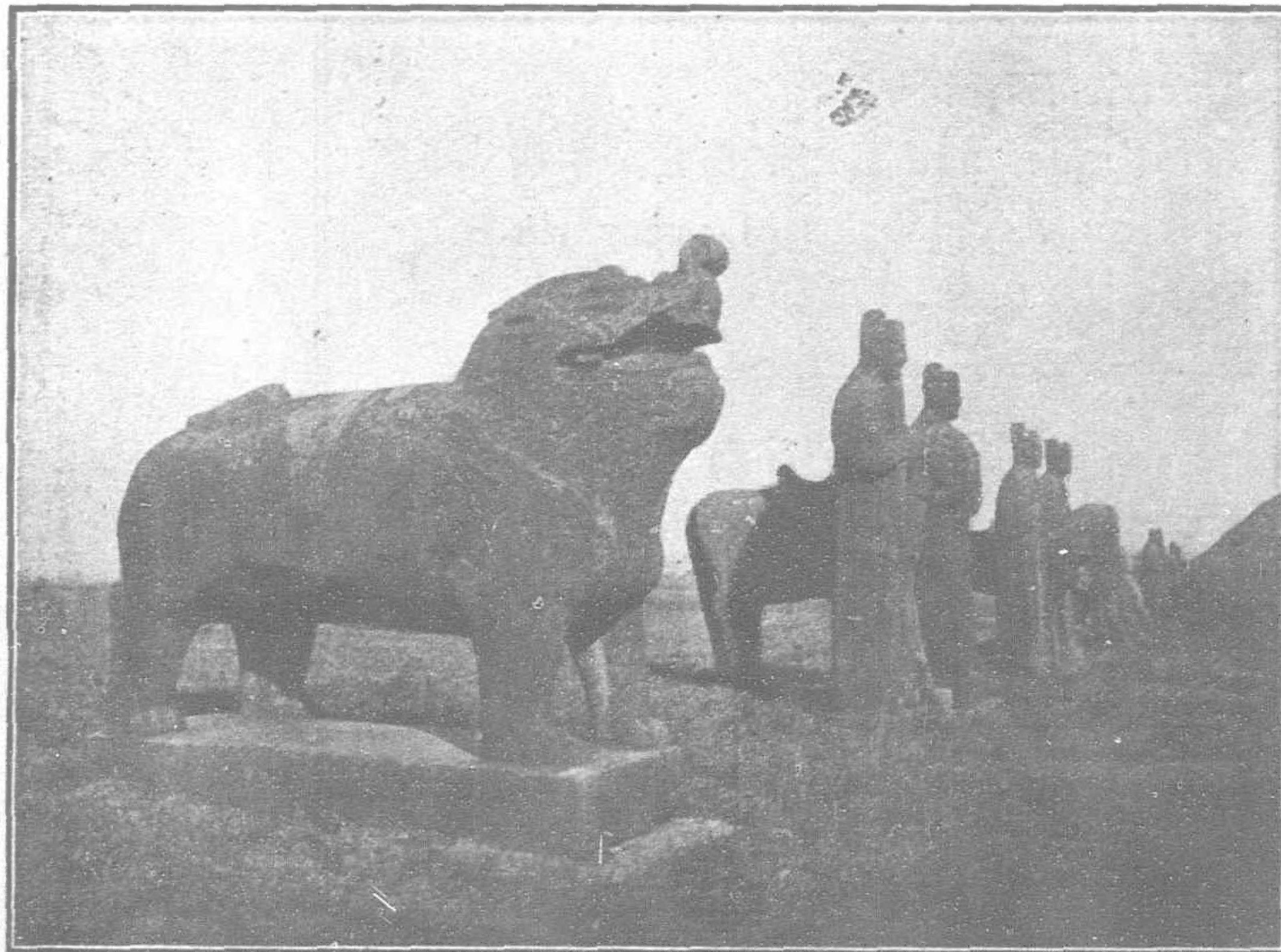
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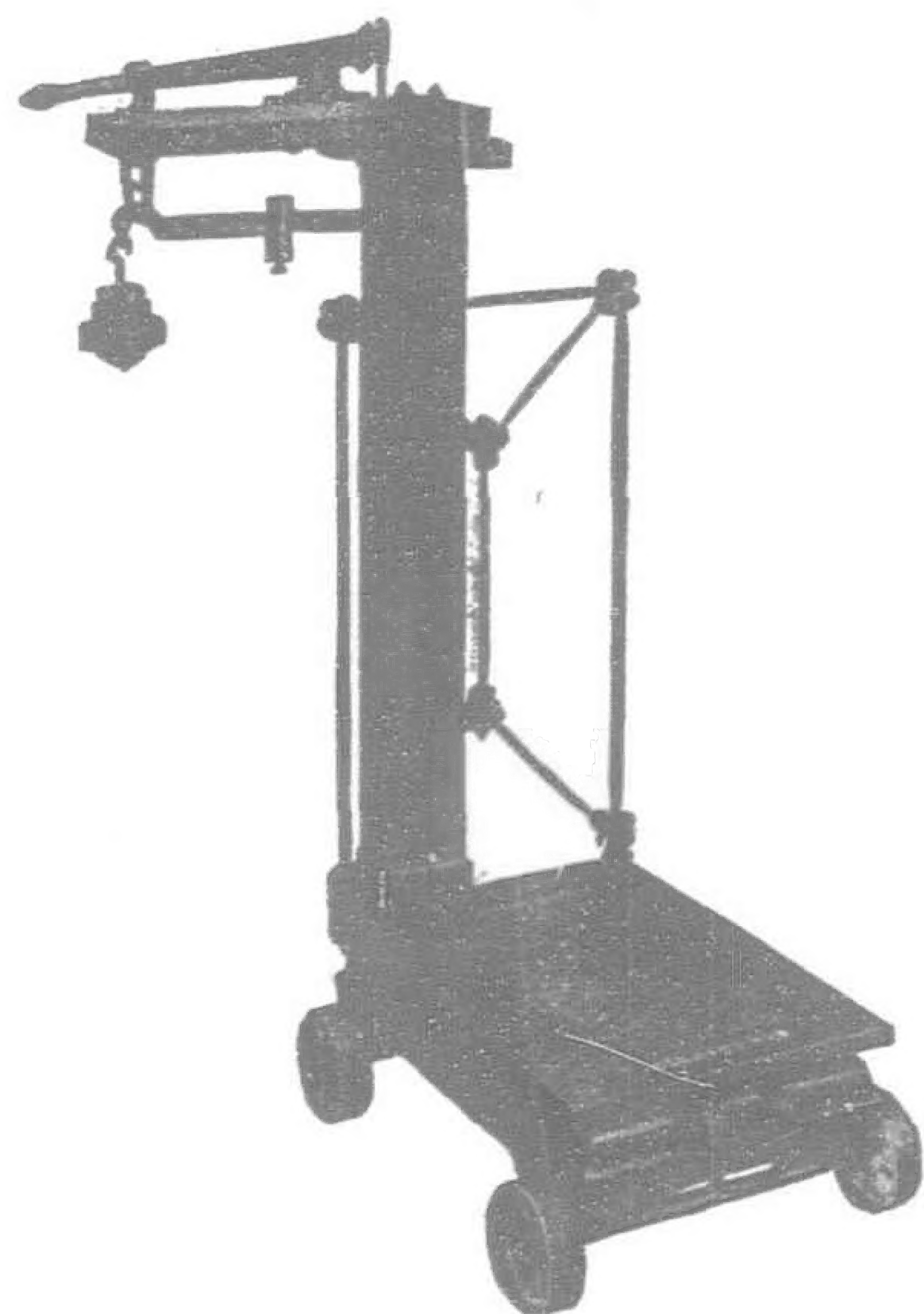
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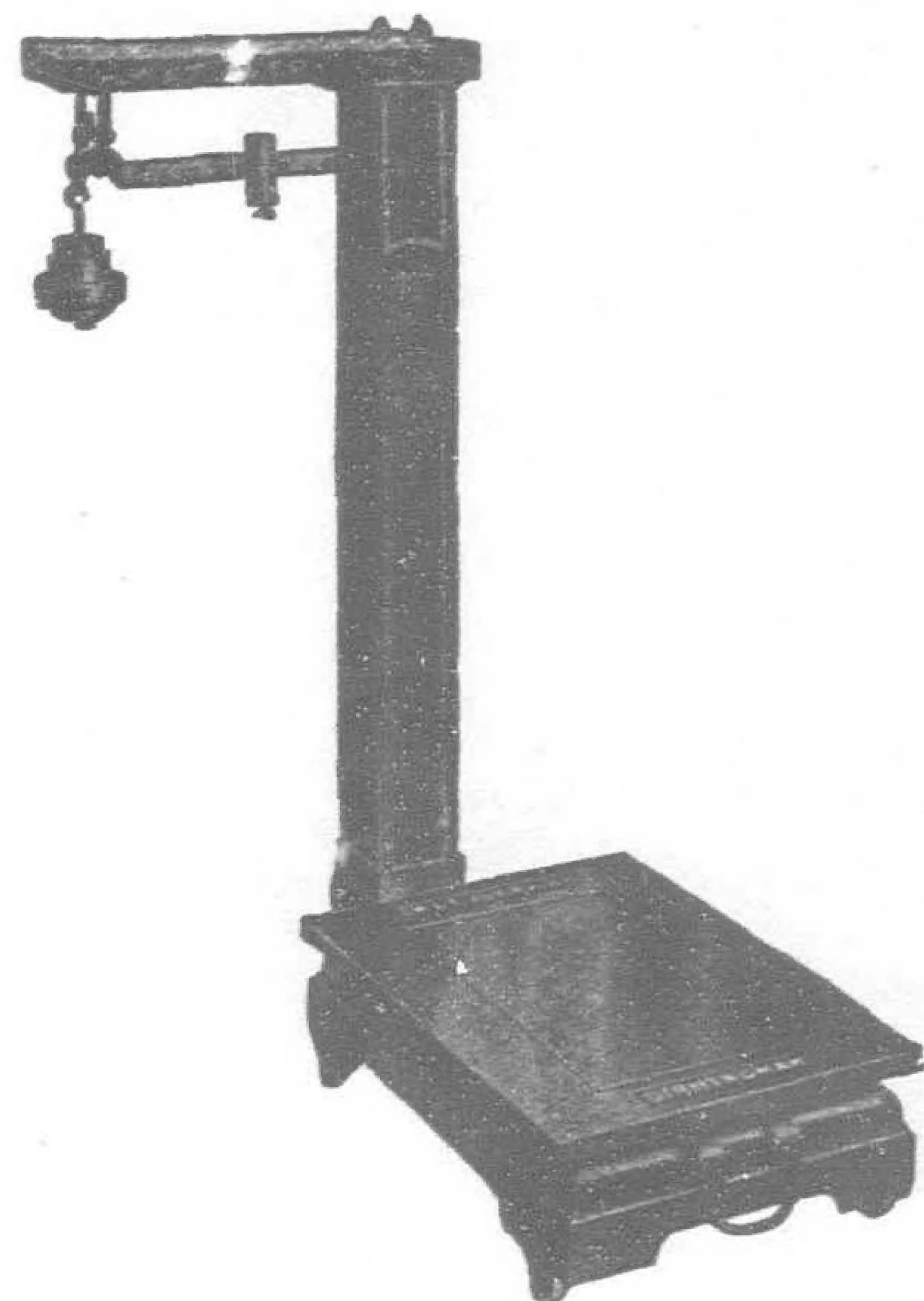


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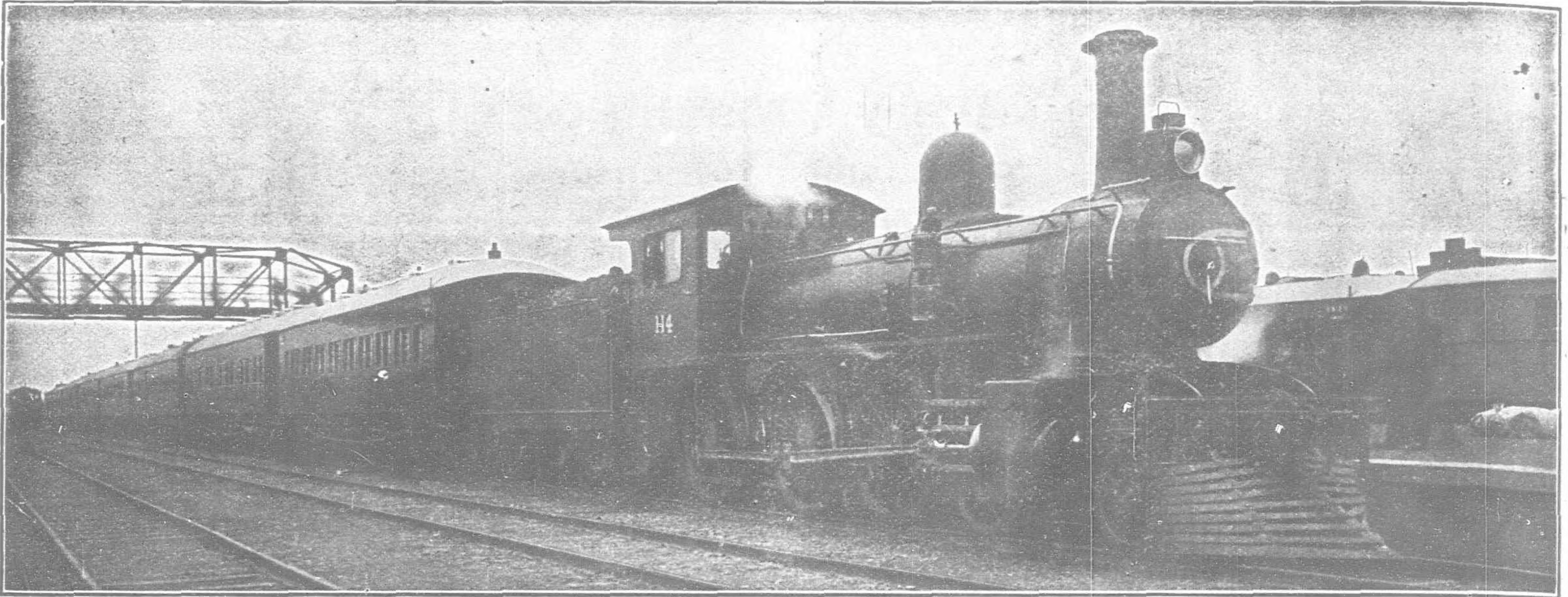
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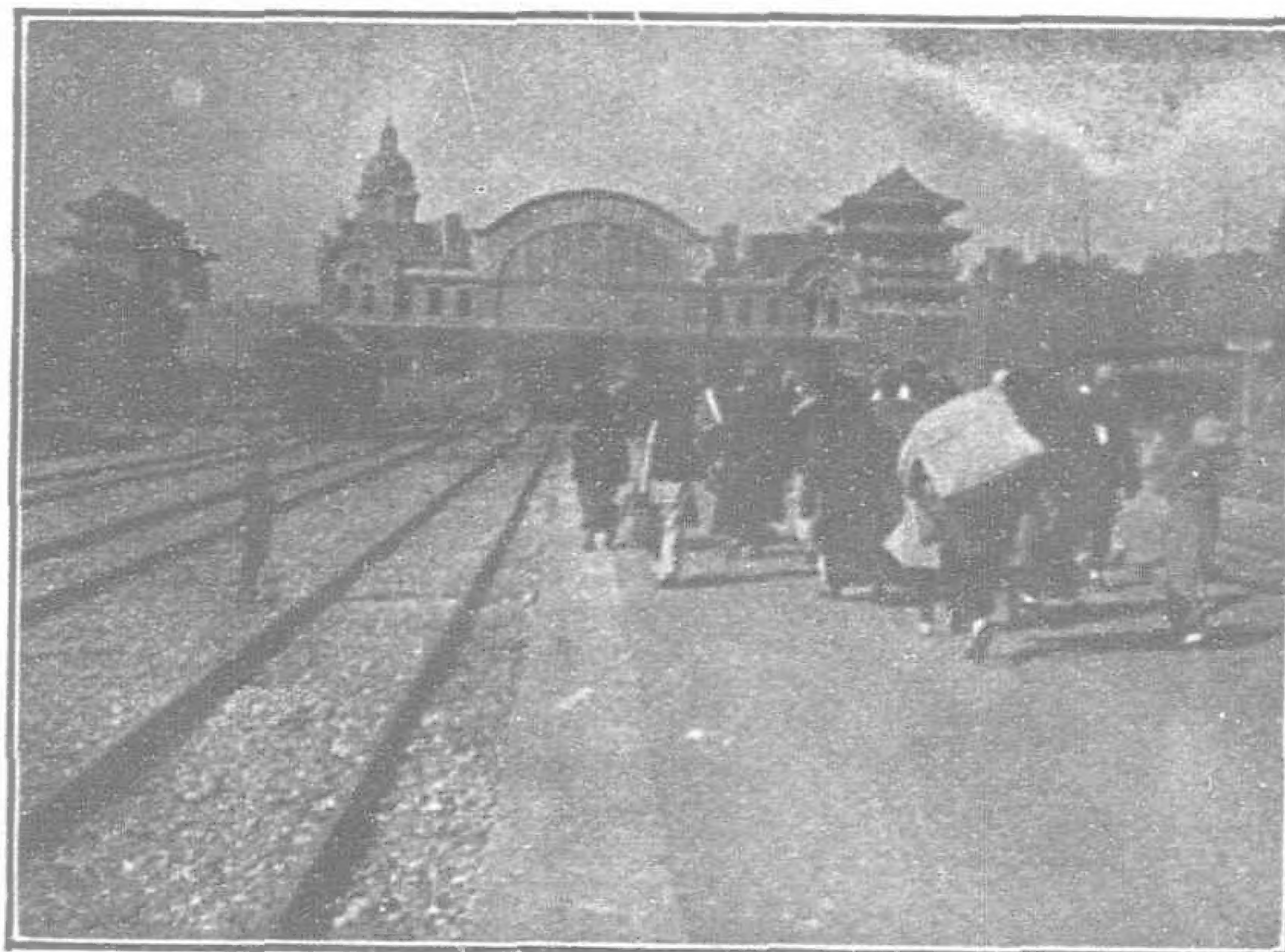
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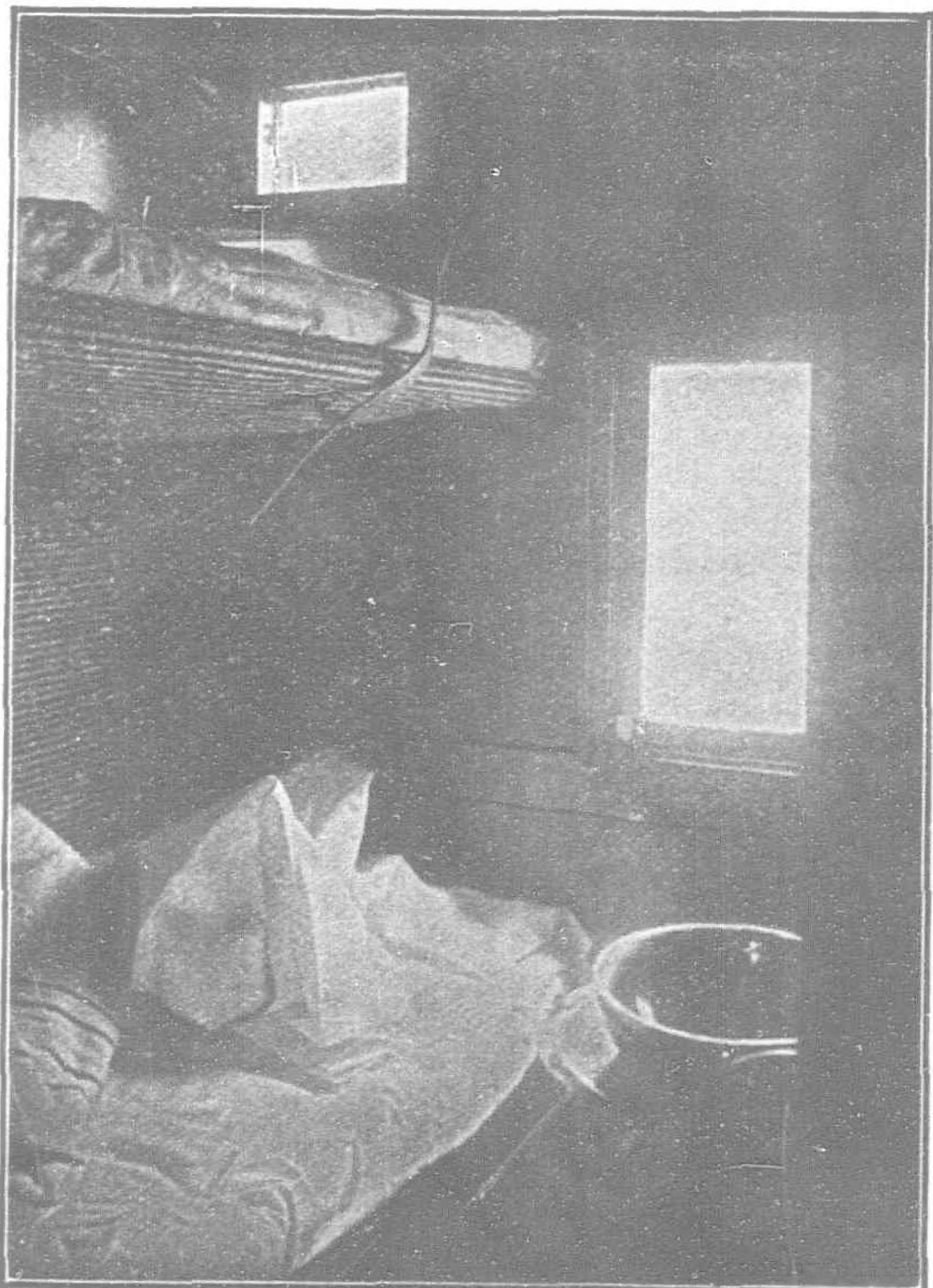
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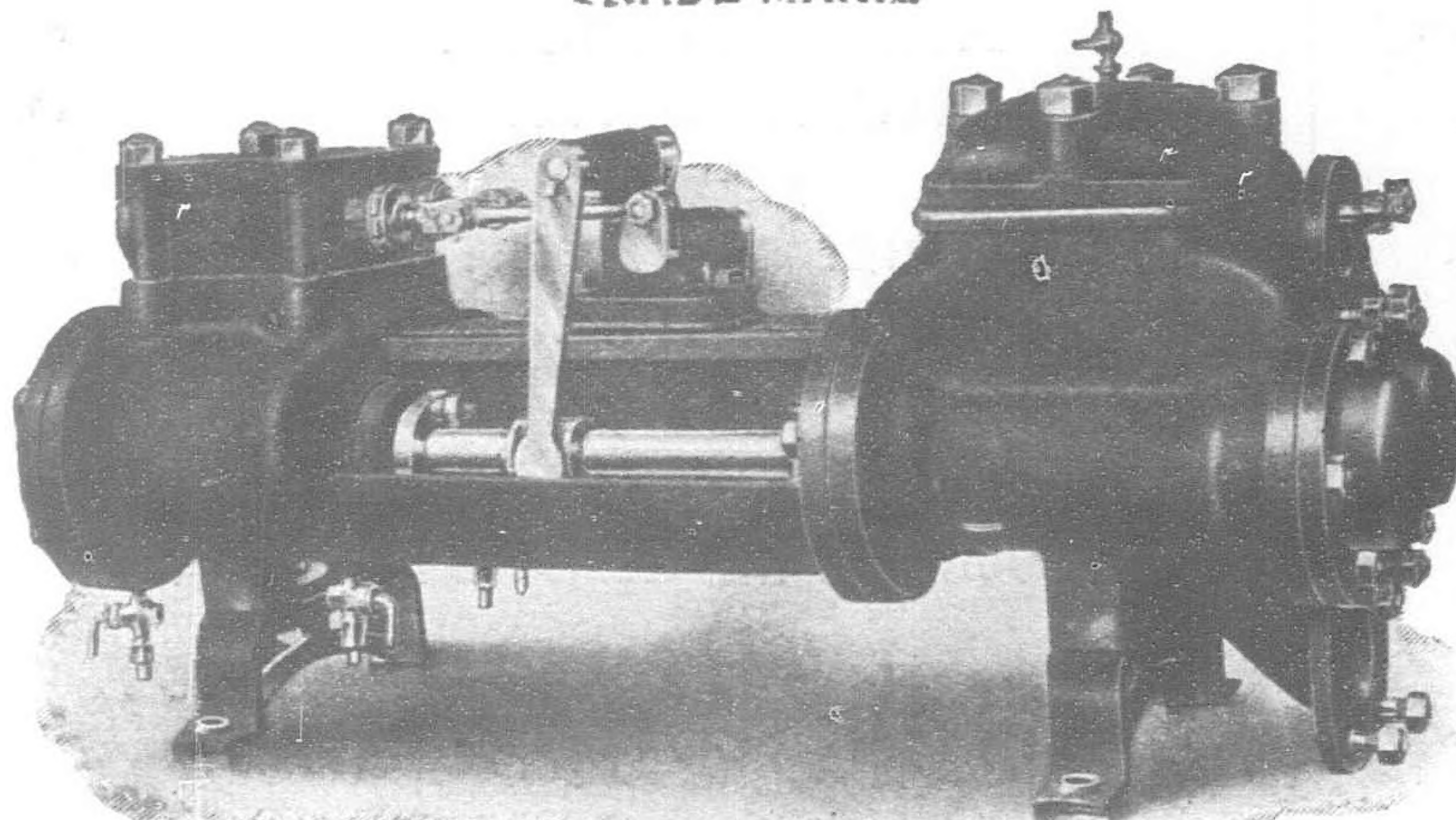
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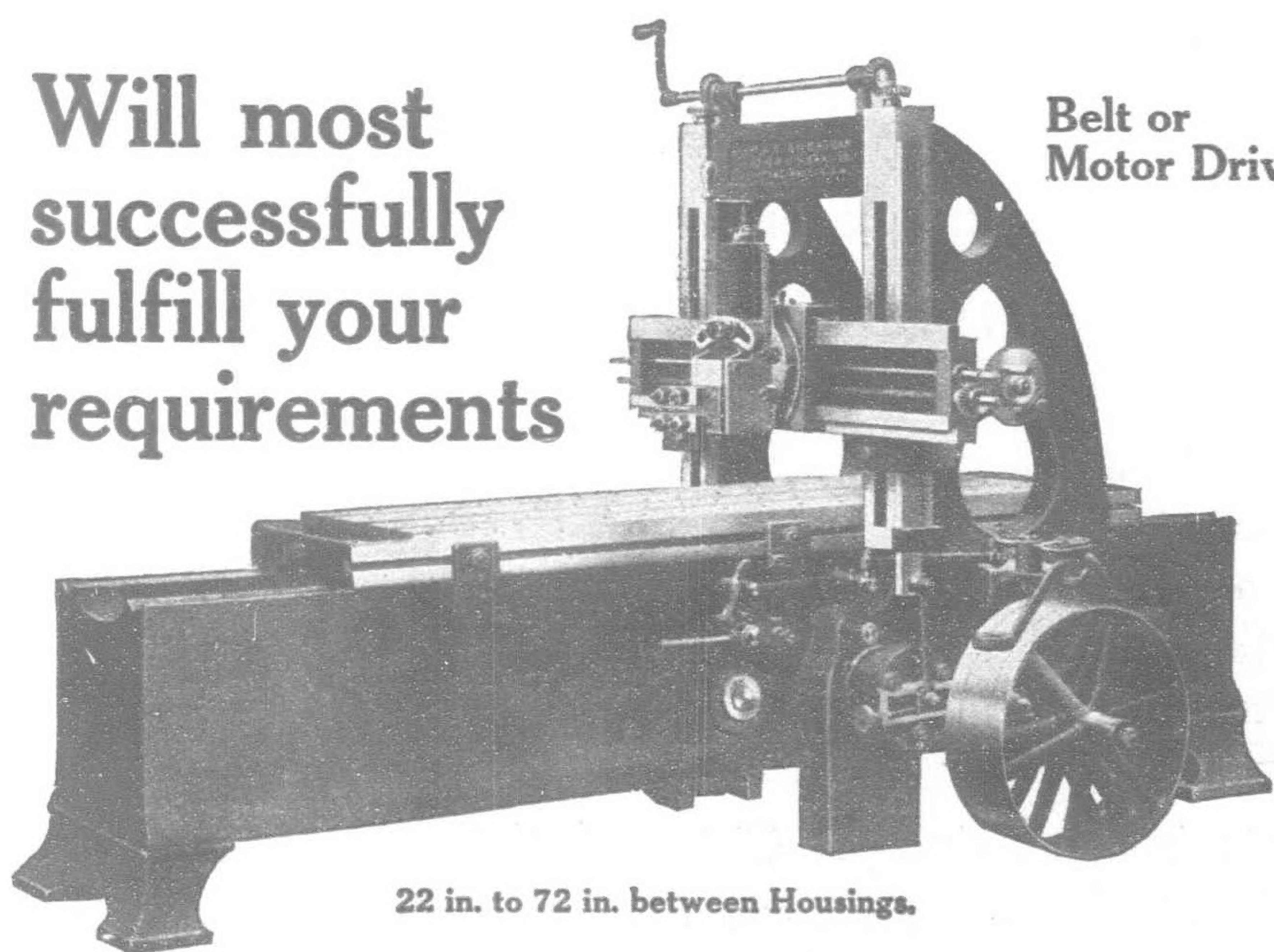
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							\$33,000,000
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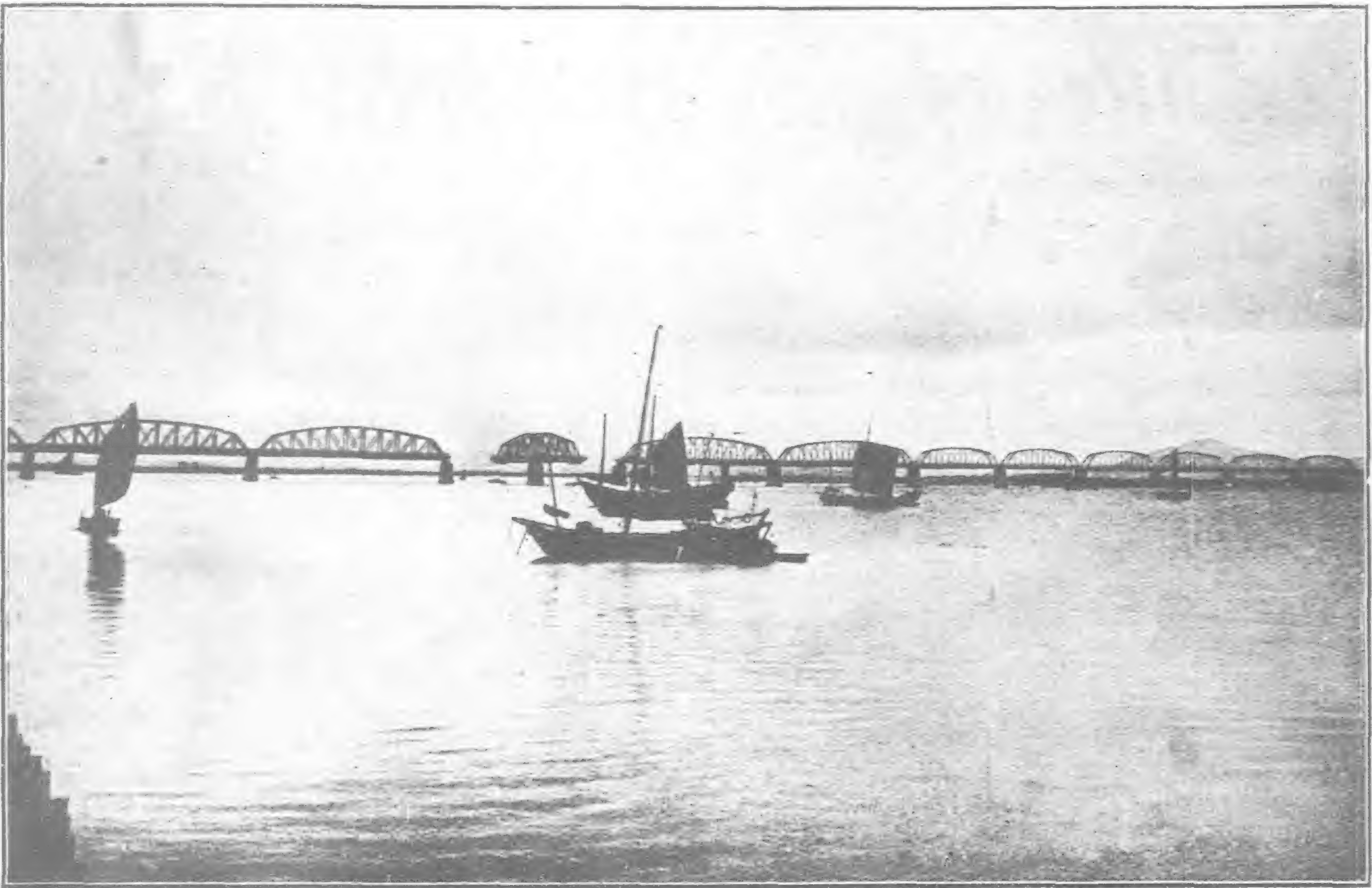
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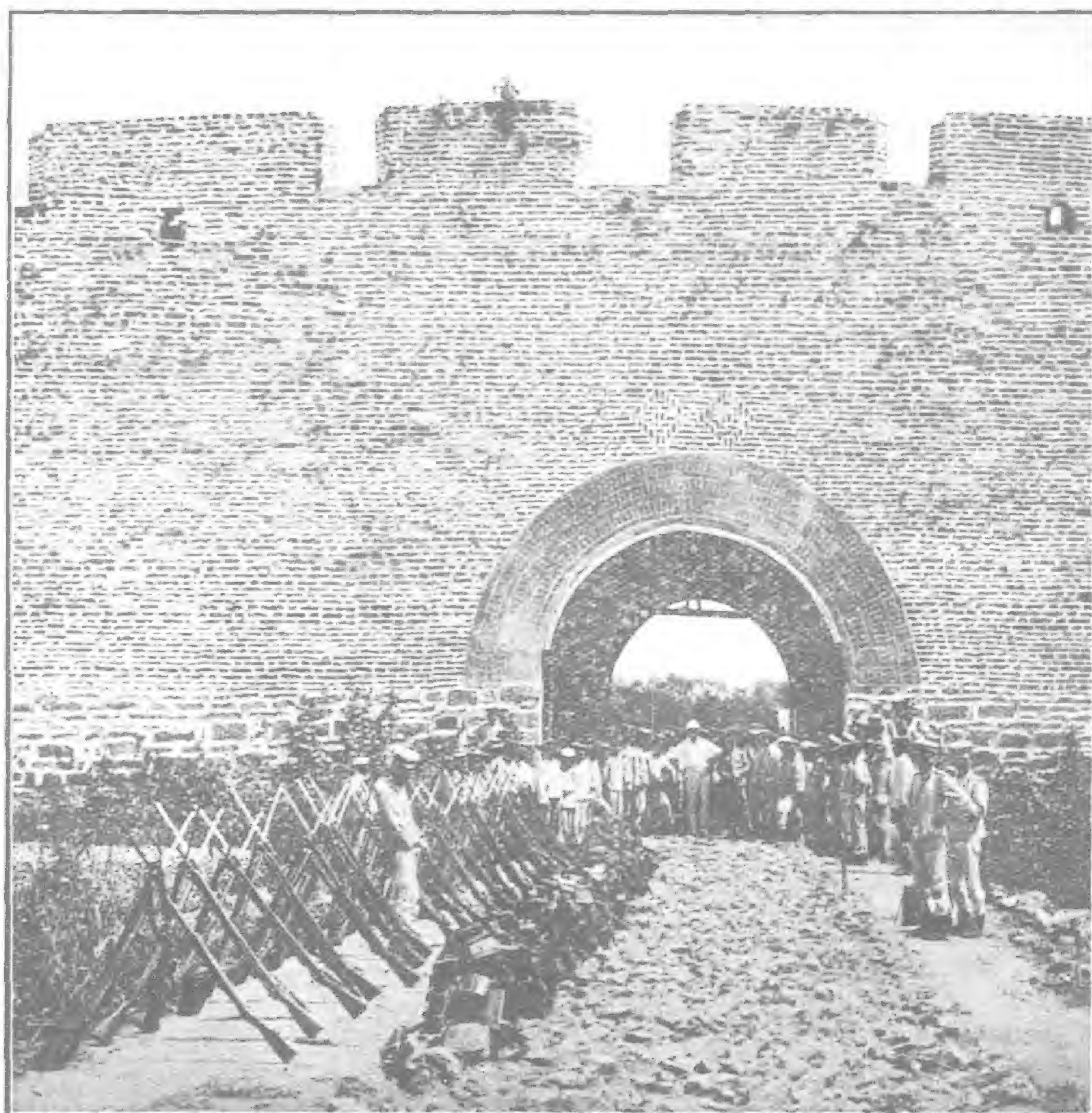
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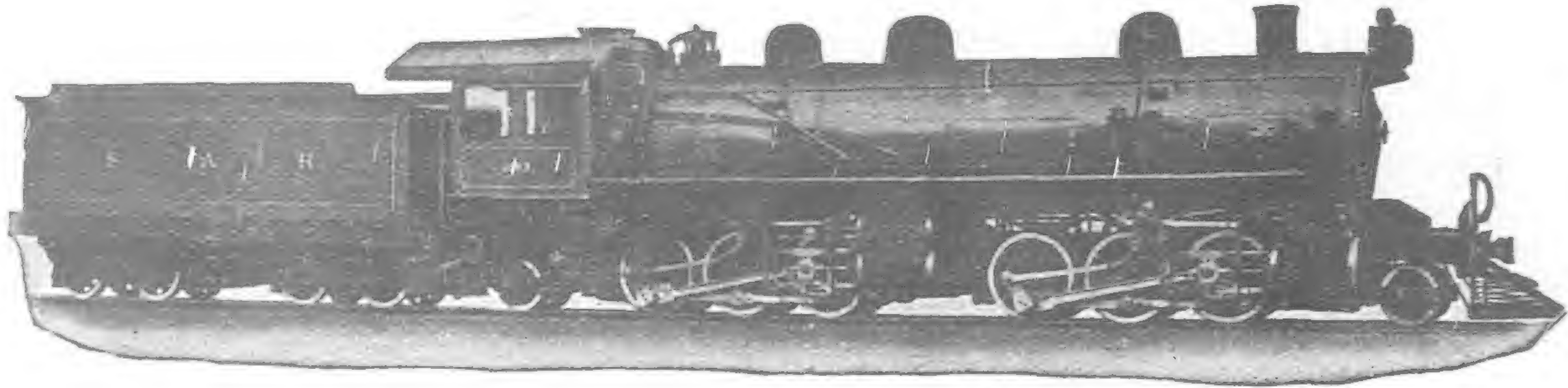
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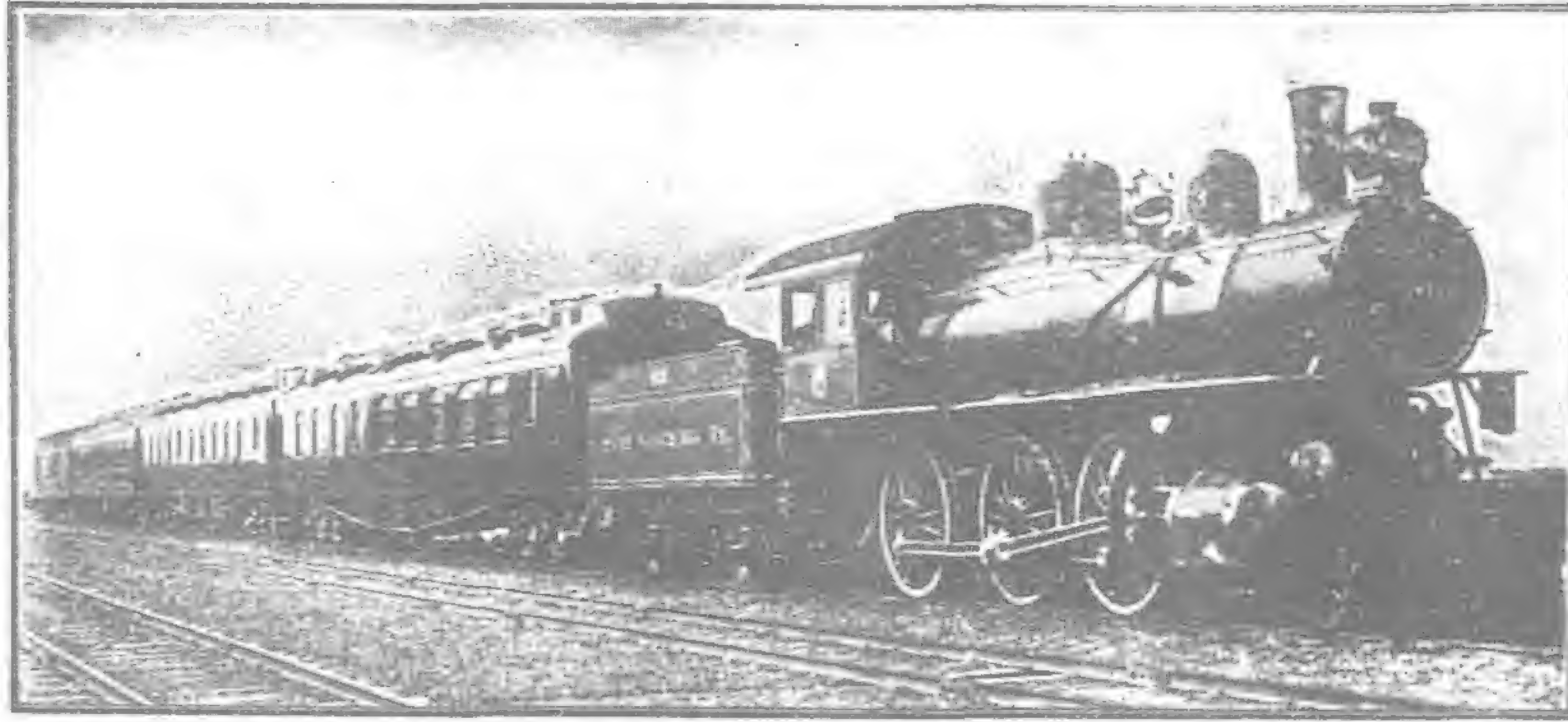
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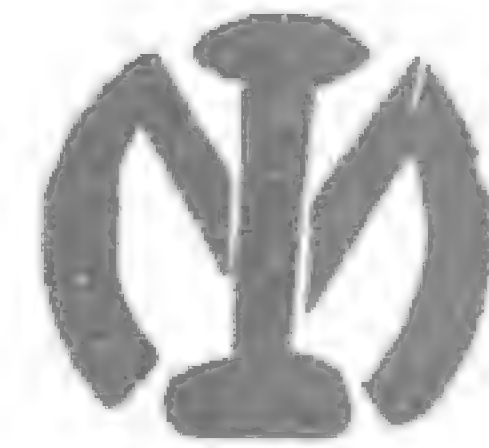
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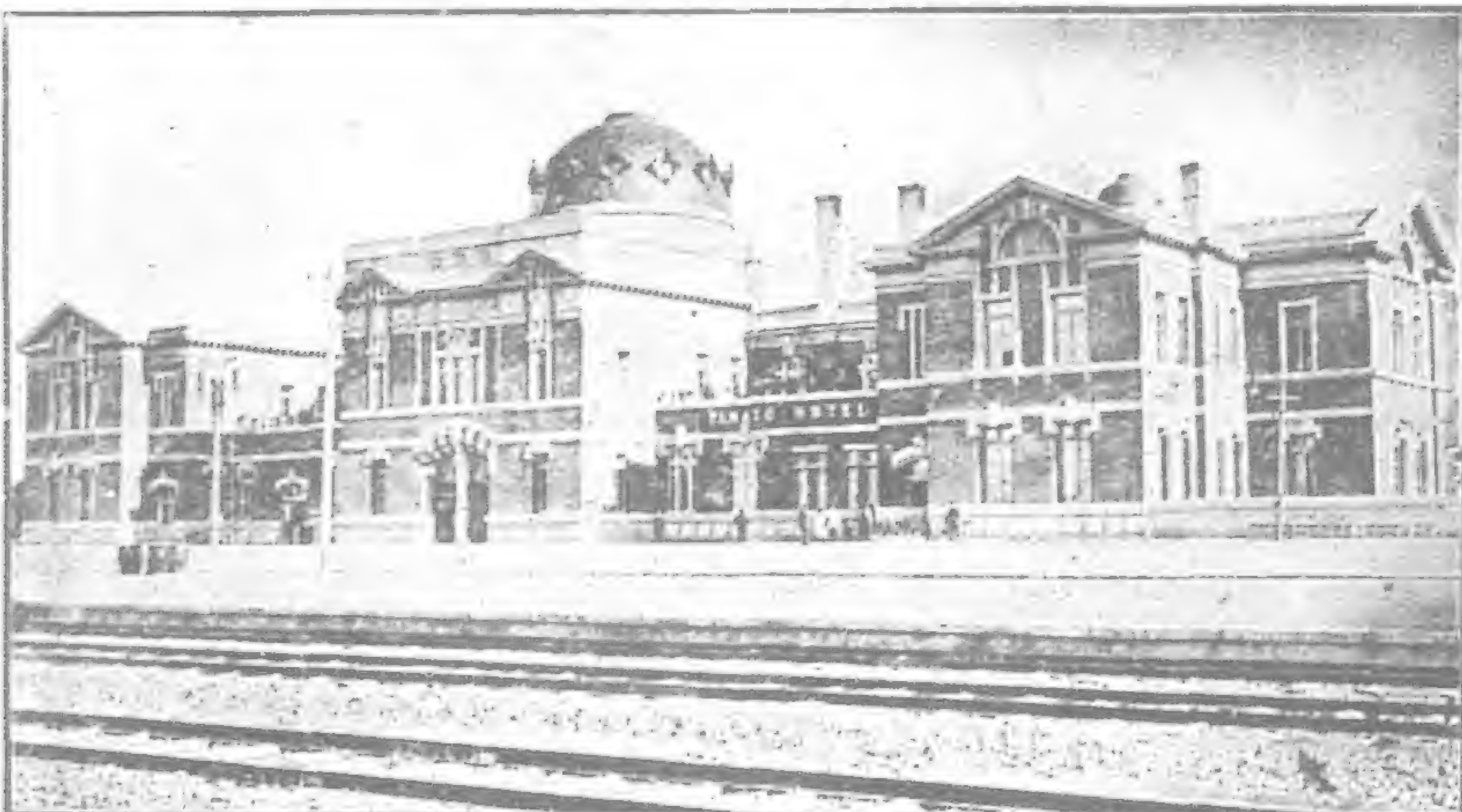


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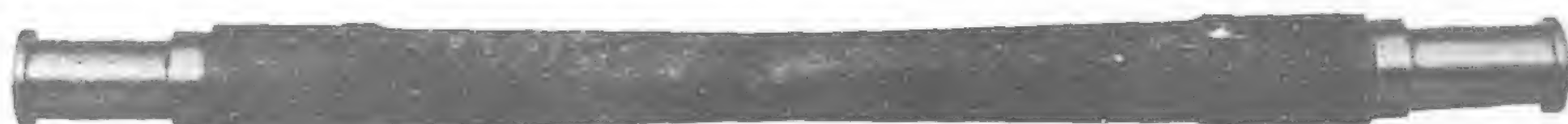
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The process, briefly stated, is as follows:—

Ingots of larger dimensions than heretofore employed are used, thereby admitting of a maximum amount of rolling or compression upon the steel.

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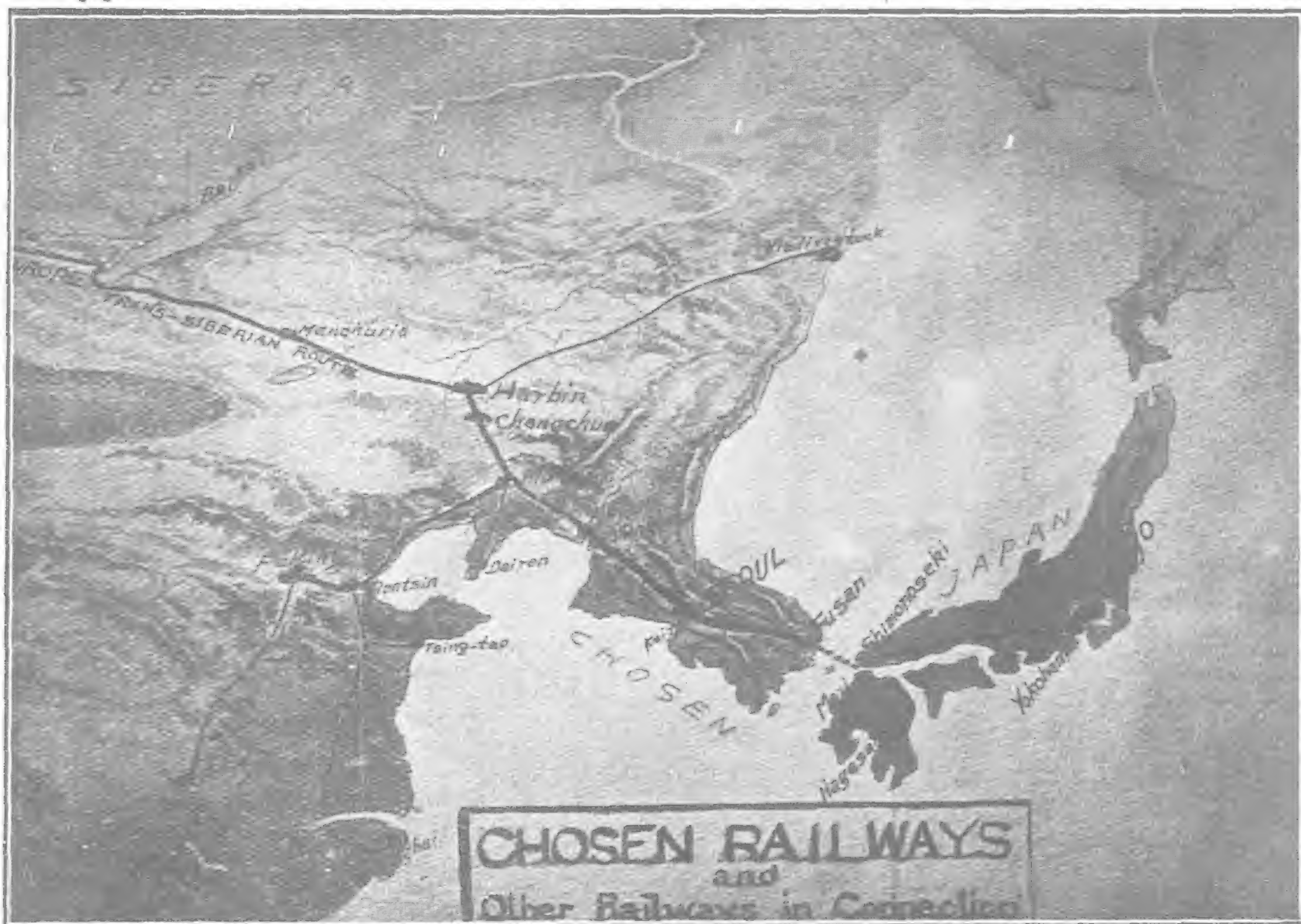
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Quickest Communication between Japan and } China
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Most Important and Interesting Route in
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Chosen-Manchuria Express

Fusan-Keijyo (Seoul)-Mukden-Changchun

The Chosen-Manchuria Express Train with excellent 1st and 2nd class sleeping cars and dining cars, runs three times a week between Fusan and Changchun, connecting in the south with trains to or from Tokyo, Yokohama, Kobe, Nagasaki, etc., at Shimonoseki or Moji through the Fusan-Shimonoseki ferry service, and in the north with the Trans-Siberian Express at Changchun.

N.B.—Owing to the irregularity of the express service on the Trans-Siberian route, caused by the present situation in Europe, only one of the above service, is run for the time being, leaving Fusan on Tuesday and Changchun on Friday.

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Two Daily Express Trains composed of 1st, 2nd and 3rd class cars are run between Fusan and Antung, and are provided with sleeping cars (on the Fusan-Keijyo (Seoul) section only) and dining cars.

These trains are run conjointly with trains on the Antung-Mukden line, thus providing a through traffic service between Fusan and Mukden.

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Through tickets from principal stations on the Chosen Railways to Tientsin, Peking, Kalgan, Tsinanfu, Hankow, Nanking, Shanghai, Harbin, Vladivostok, Tsitsikar, Manchuria, Irkutsk, Moscow, Petrograd, Warsaw, Odessa, etc., besides principal points on the lines of the Japanese Railways and the South Manchuria Railway as well as ports in Chosen, are issued.



Fusan Pier

A scene in Keijyo (Seoul)

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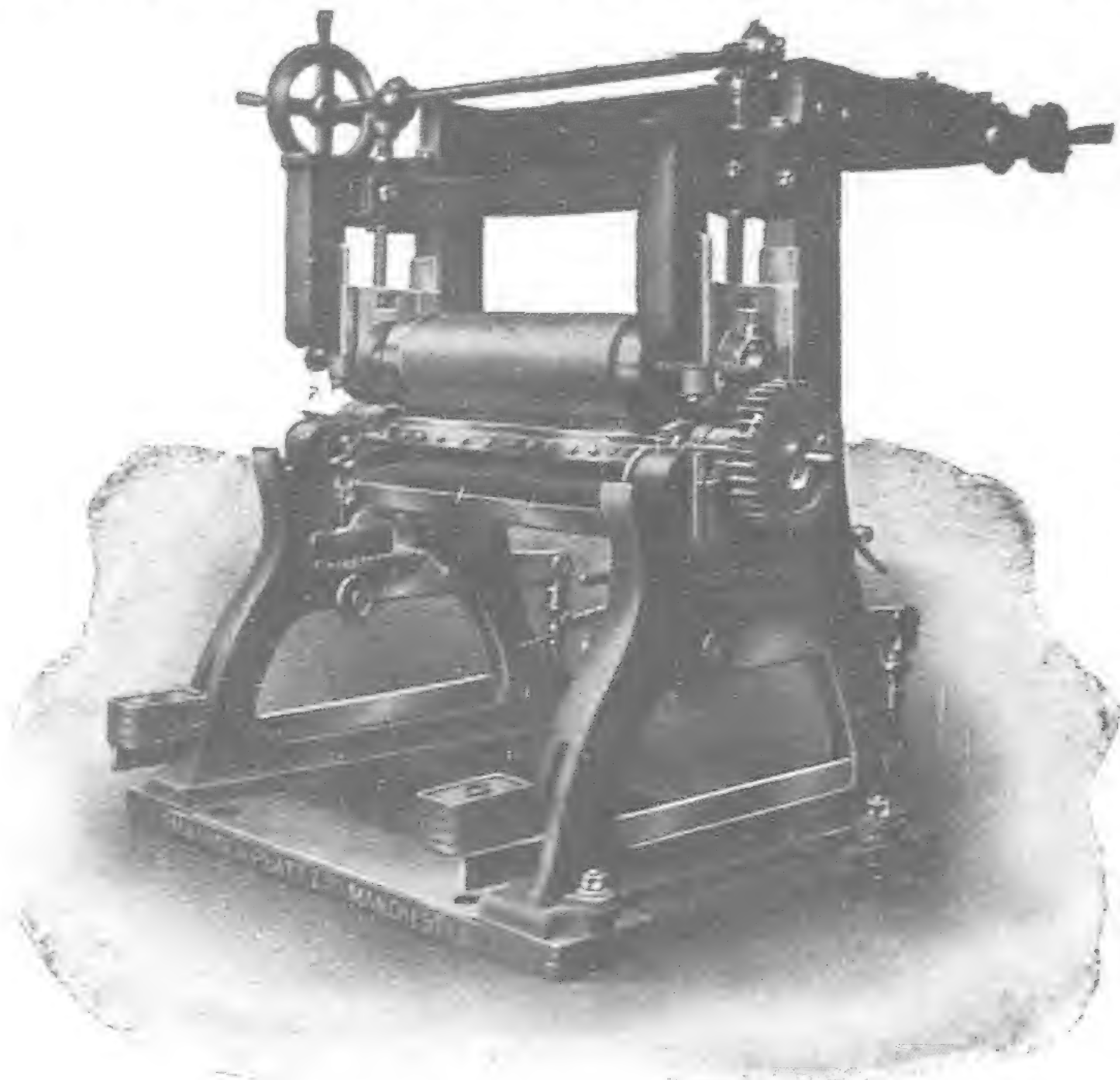
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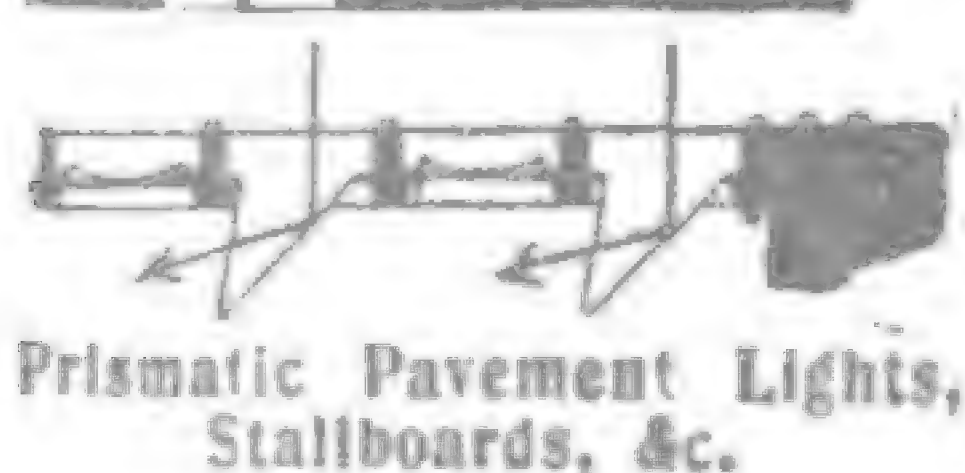
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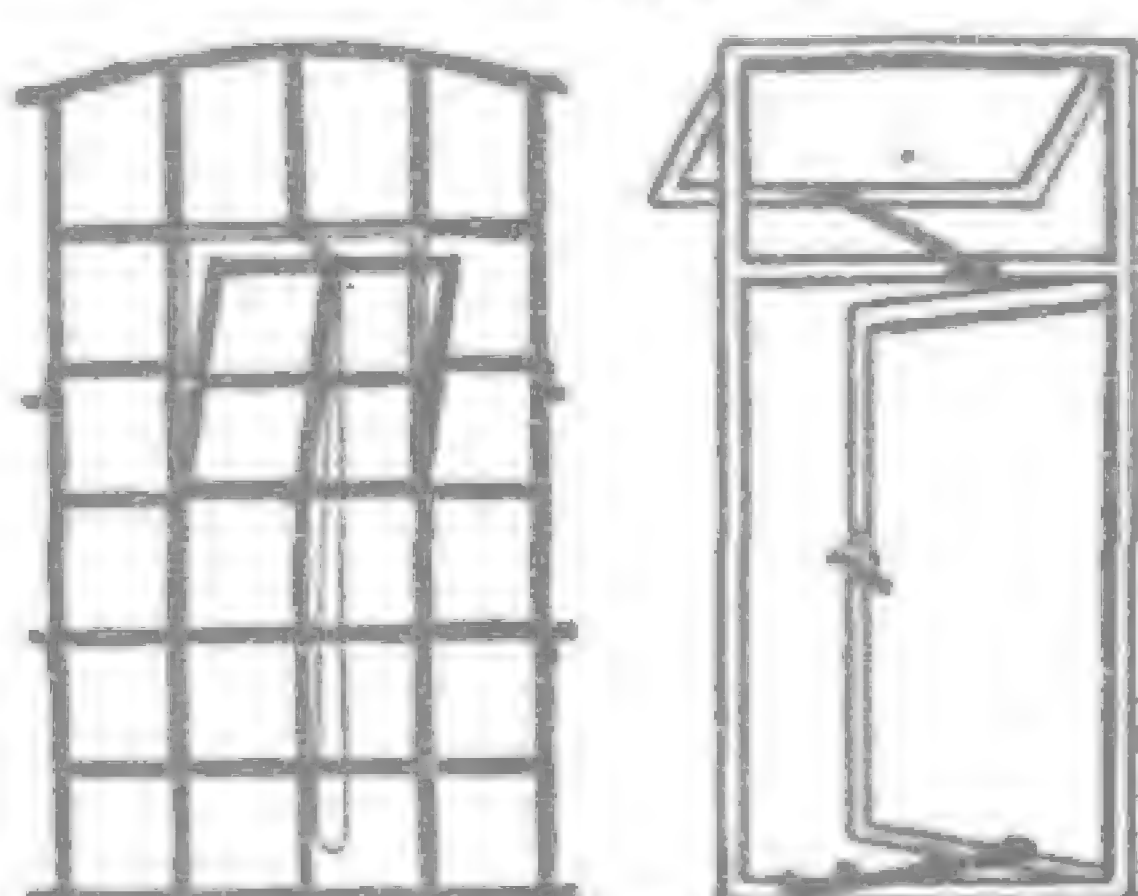
Hayward's Iron Stairs, Circular and Straight, for Service, and for Fire Escape, &c.



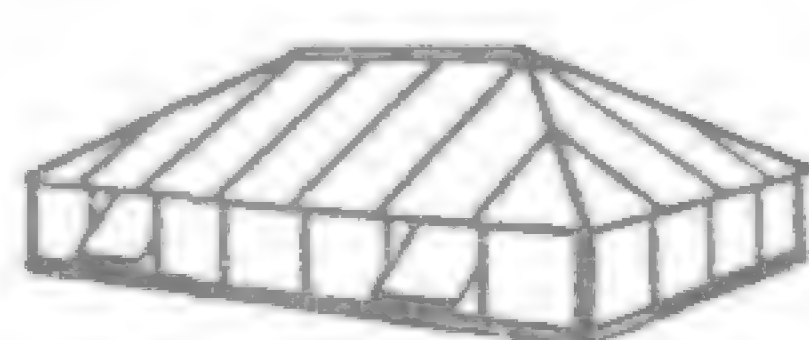
Mica Flap Vents.



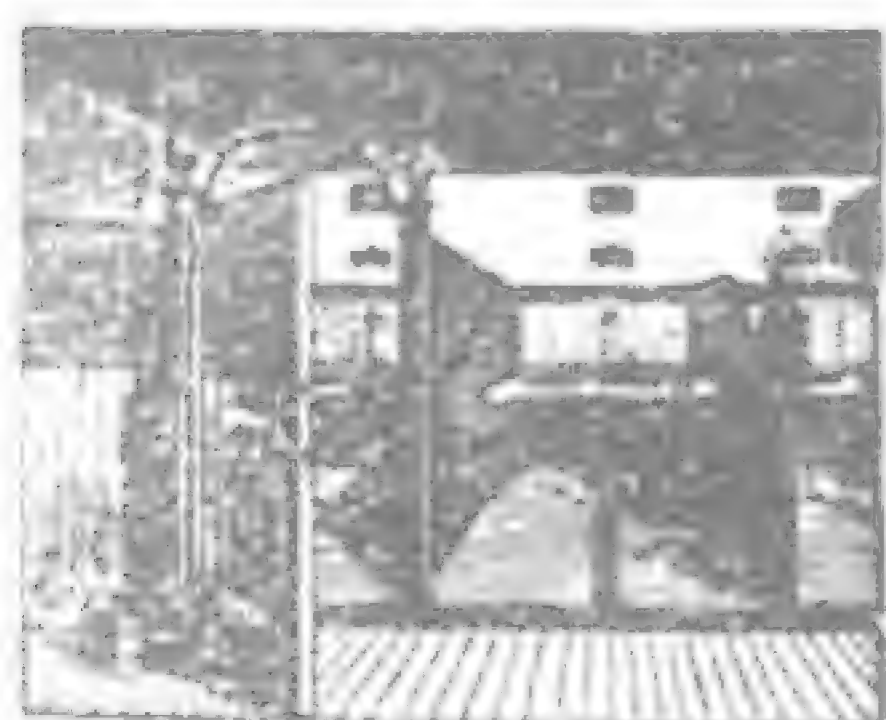
Vents for Rooms.



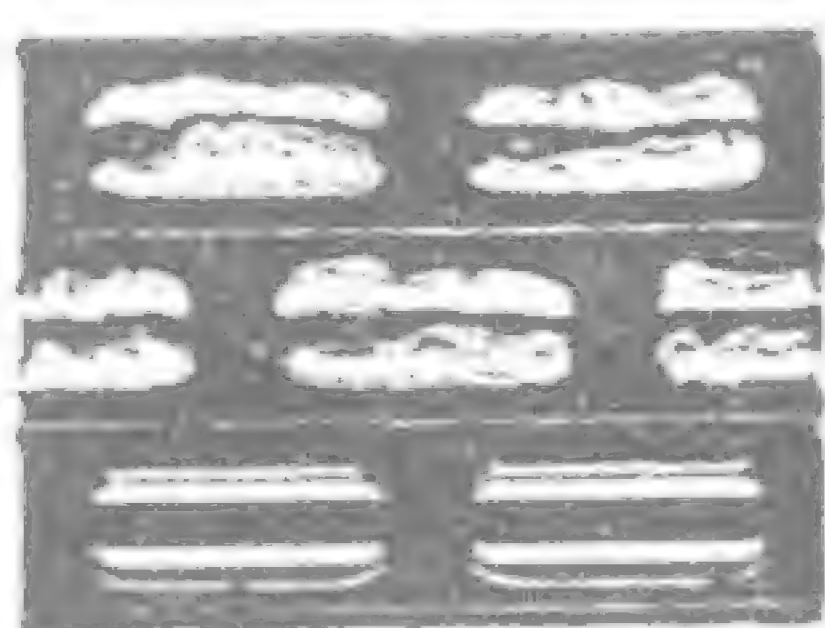
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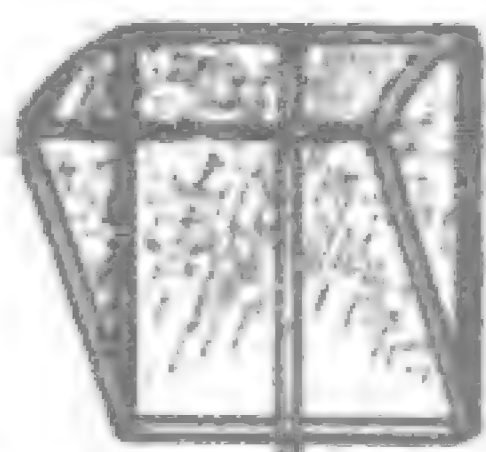
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"Jhilmil" Steel Lath saves 25 per cent. of plaster.



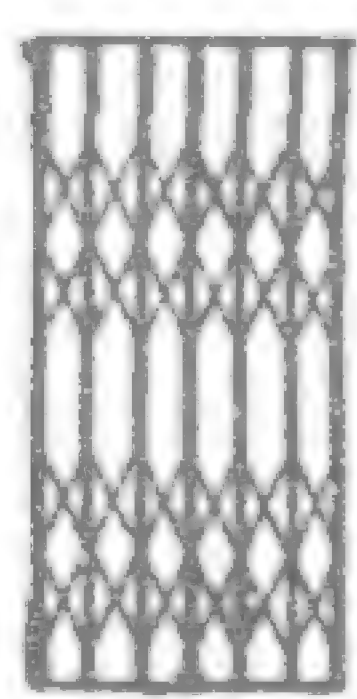
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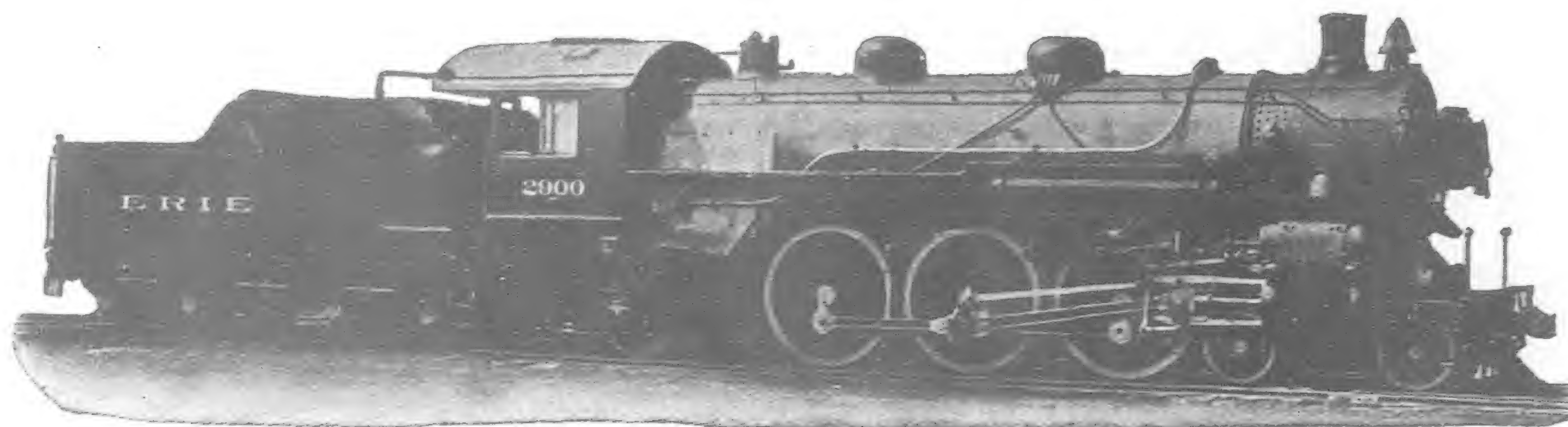
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Built for the **ERIE RAILROAD** for heavy fast passenger service where maximum capacity was desired.

GENERAL DIMENSIONS AS FOLLOWS:

Cylinders, 27 × 28 inches
Driving wheel base, 14 ft.
Total Wheel base, 36 ft. 2 inches
Drivers, diameter 79 inches
Boiler, straight locomotive type
Boiler, diameter 79 inches

Weight on drivers, 176,000 lbs.
Total Weight, 287,000 lbs.
Tractive Power, 40,700 lbs.
Factor Adhesion, 4.24
Superheater, Schmidt
Valve motion, Baker

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CHINESE GOVERNMENT RAILWAYS KIRIN-CHANGCHUN LINE.

TIME TABLE.

UP TRAINS		STATIONS.		DOWN TRAINS	
Daily				Daily	
Mail	Mixed			Mixed	Mail
6.10	11.05	arr.	TOUTAOKOU	dept.	2.20 7.30
5.57	10.52	dept.	CHANGCHUN	arr.	2.32 7.42
5.51	10.46	arr.		dept.	2.42 7.50
5.23	10.16	dept.	KALUN	arr.	3.14 8.19
5.21	10.14	arr.		dept.	3.19 8.22
4.55	9.46	dept.	YINMAHO	arr.	3.46 8.47
4.53	9.44	arr.		dept.	3.51 8.49
4.40	9.30	dept.	HSIACHIUTAI	arr.	4.05 9.02
4.38	9.28	arr.		dept.	4.10 9.04
4.28	9.17	dept.	YINGCHENG TZE	arr.	4.21 9.14
4.26	9.12	arr.		dept.	4.27 9.16
4.04	8.51	dept.	TUMENLING	arr.	4.50 9.39
3.54	8.41	arr.		dept.	5.00 9.49
3.39	8.25	dept.	CHAOCHIATIEN	arr.	5.16 10.04
		arr.		dept.	
3.16	8.02	dept.	HUAPICHANG	arr.	5.38 10.24
3.14	7.57	arr.		dept.	5.43 10.26
3.00	7.43	dept.	KUTIENTZE	arr.	5.58 10.40
	7.42	arr.		dept.	
2.45	7.28	dept.	KIUCHAN	arr.	6.13 10.55
2.43	7.23	arr.		dept.	6.18 10.57
2.25	7.05	dept	KIRIN	arr.	6.38 11.15



BIRD'S EYE VIEW OF KIRIN CITY

NOTICE:—"dept." = Departure. "arr." = Arrival. Light type figures = A.M. time. Heavy type figures = P.M. time.
1st May, 1914, and until further notice.

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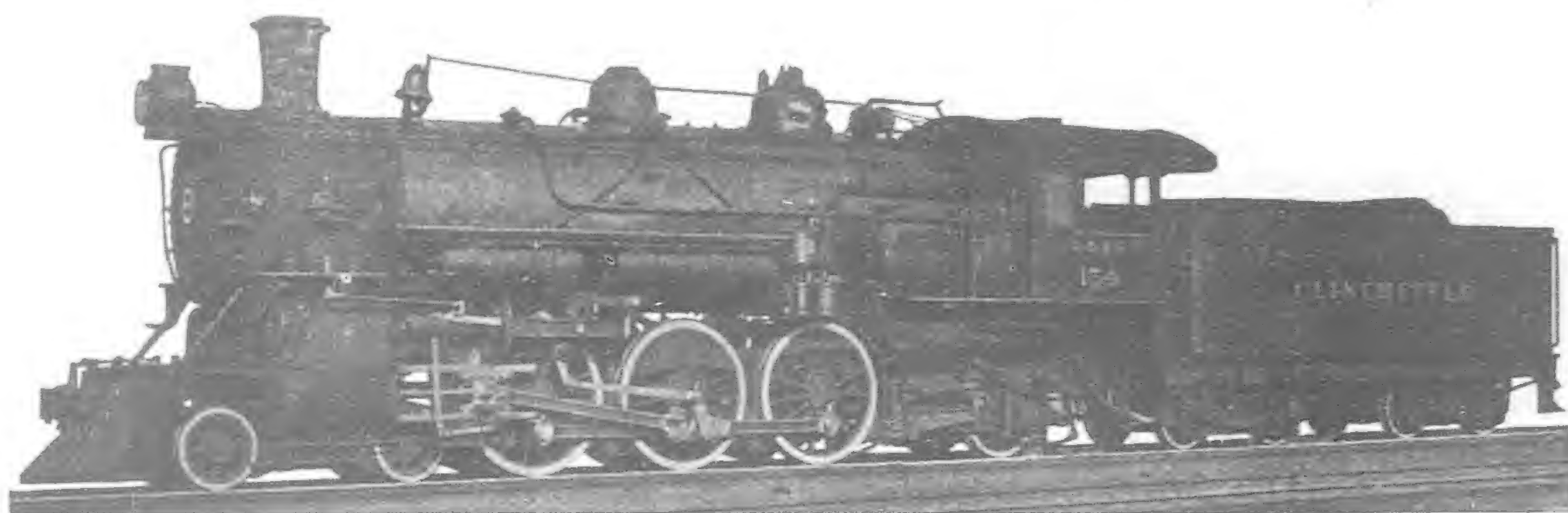
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PACIFIC TYPE LOCOMOTIVE, CAROLINA, CLINCHFIELD & OHIO RY.

Cylinders, 25"×30"
Driving-wheels, diameter 69"
Steam pressure, 200 lbs.
Grate area, 53.8 sq. ft.

Water Heating surface, 3,982 sq. ft.
Superheating surface, 955 sq. ft.
Weight on driving-wheels, 176,900 lbs.
Weight, total engine, 280,300 lbs.

Tractive force, 46,000 lbs.

The locomotive illustrated above is used in passenger service on long grades, where speeds are moderate but high horse-power must be developed. The long stroke and moderate sized driving-wheels fit the engine for this kind of work, while at the same time it is capable of running at high speeds on level and descending sections of the line. This locomotive develops an unusually high tractive force for a six-coupled engine, and illustrates the capacity that can be secured in the Pacific type when track conditions permit heavy wheel-loads to be carried.

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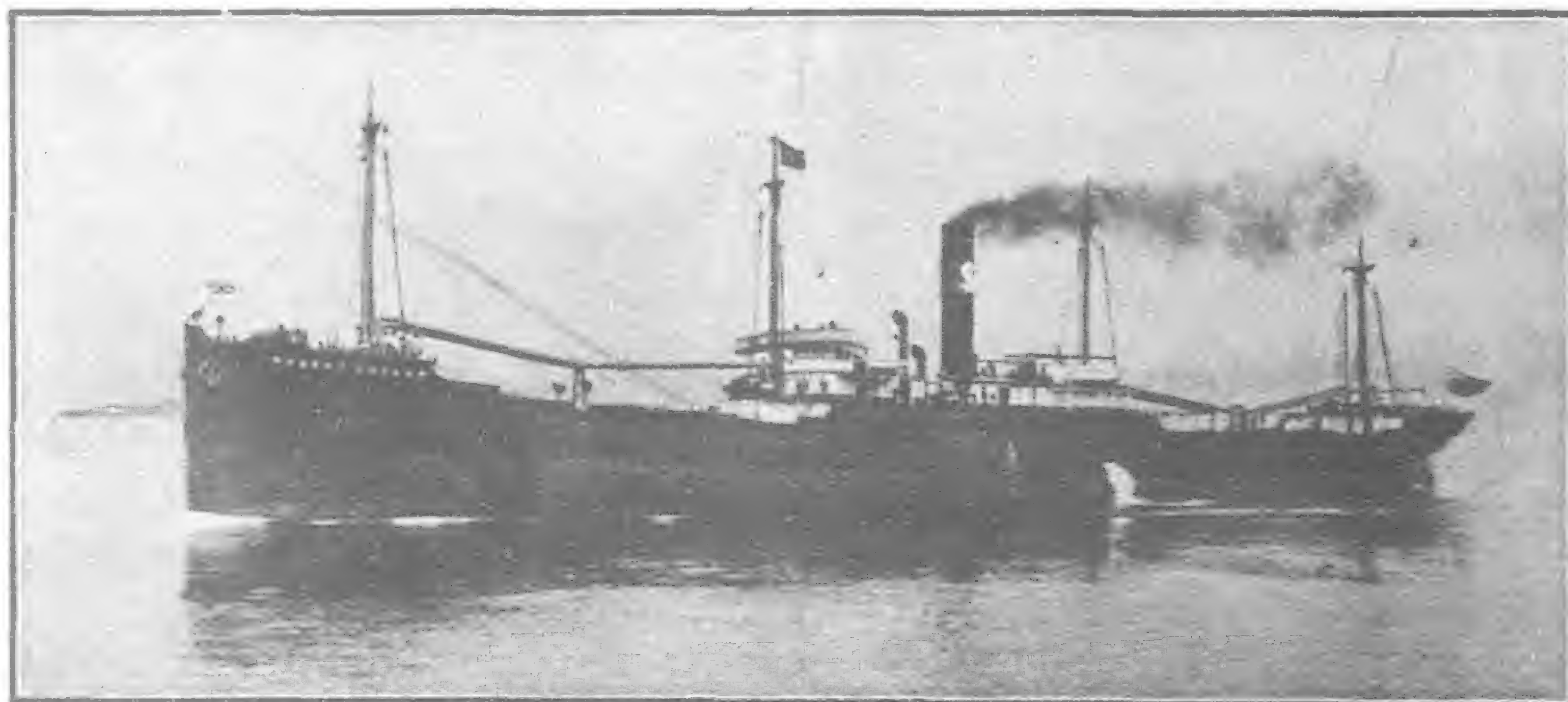
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The Cheng-Tai Railway

(CHINESE GOVERNMENT SHANSI LINE—CHENGTINGFU TO TAIYUANFU)



VIEWS ALONG ROUTE OF CHENG-TAI RAILWAY

The trains of this line connect with the through service of the Peking-Hankow Railway, affording Travellers the opportunity of seeing the most picturesque part of China. The line passes through a mountainous section of country, rich in Mineral Resources to the Provincial Capital of Shansi at Taiyuanfu. This interesting city is a great educational center, and famous for the fine quality of its artistic embroideries.

The Peking-Kalgan Line

"THE ROAD TO THE GREAT WALL"



This line follows the ancient caravan route and military highway from Mongolia into China by the way of the historic Nankow Pass. This pass is the Key to Peking, and Kalgan is the gate of the Country. From here the great camel caravans set out on their long journeys across Mongolia to Siberia and Central Asia. This old frontier mart, retaining its time-honored characteristics, one of the most interesting sights of the Old World, is made accessible by the new railway. The line also carries the passenger in two hours from Peking to Nankow, when the Great Wall of China and the Ming Tombs may be seen. A foreign hotel is operated by the railway authorities at Nankow, where chairs and guides may be secured for the Tombs.

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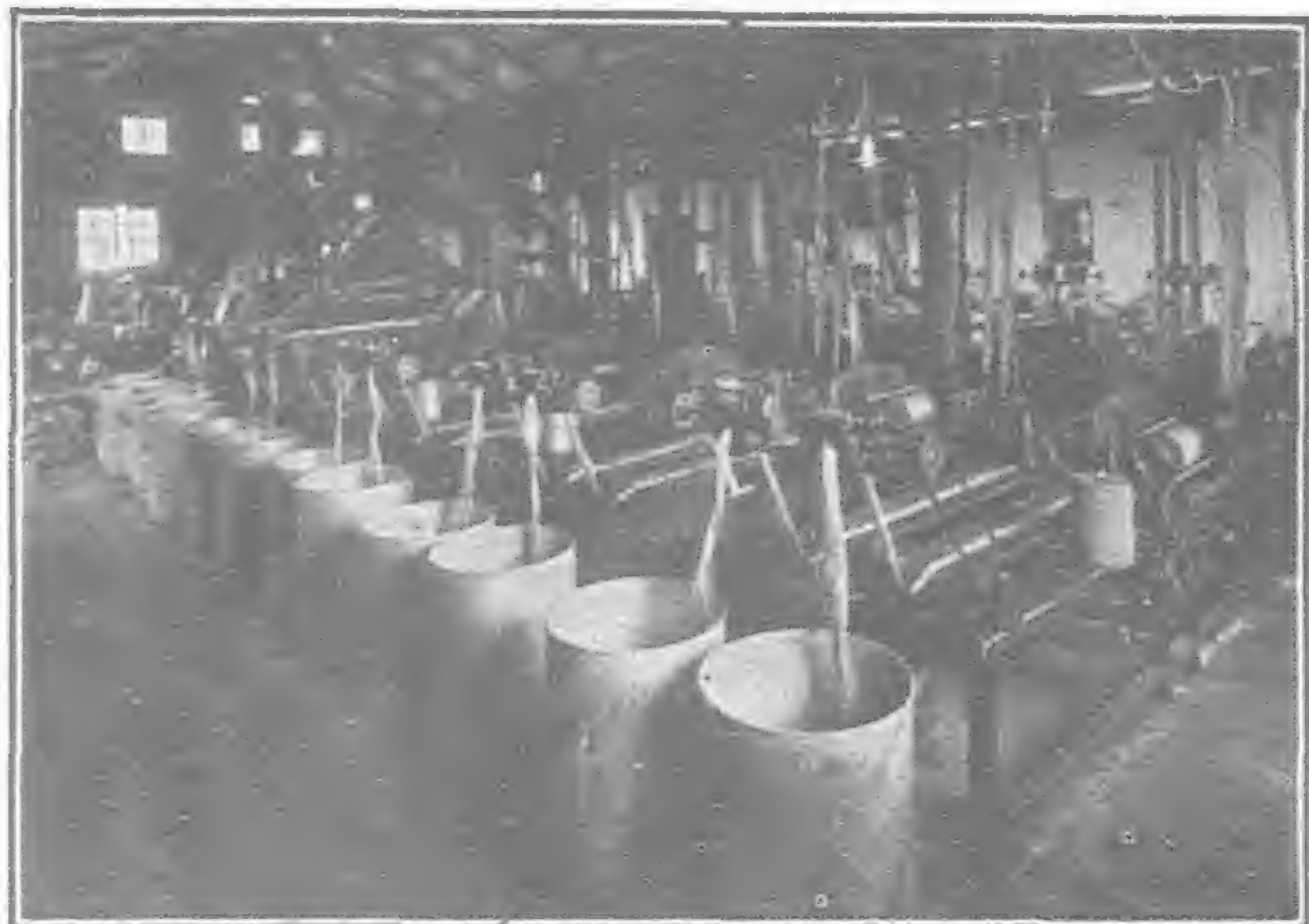
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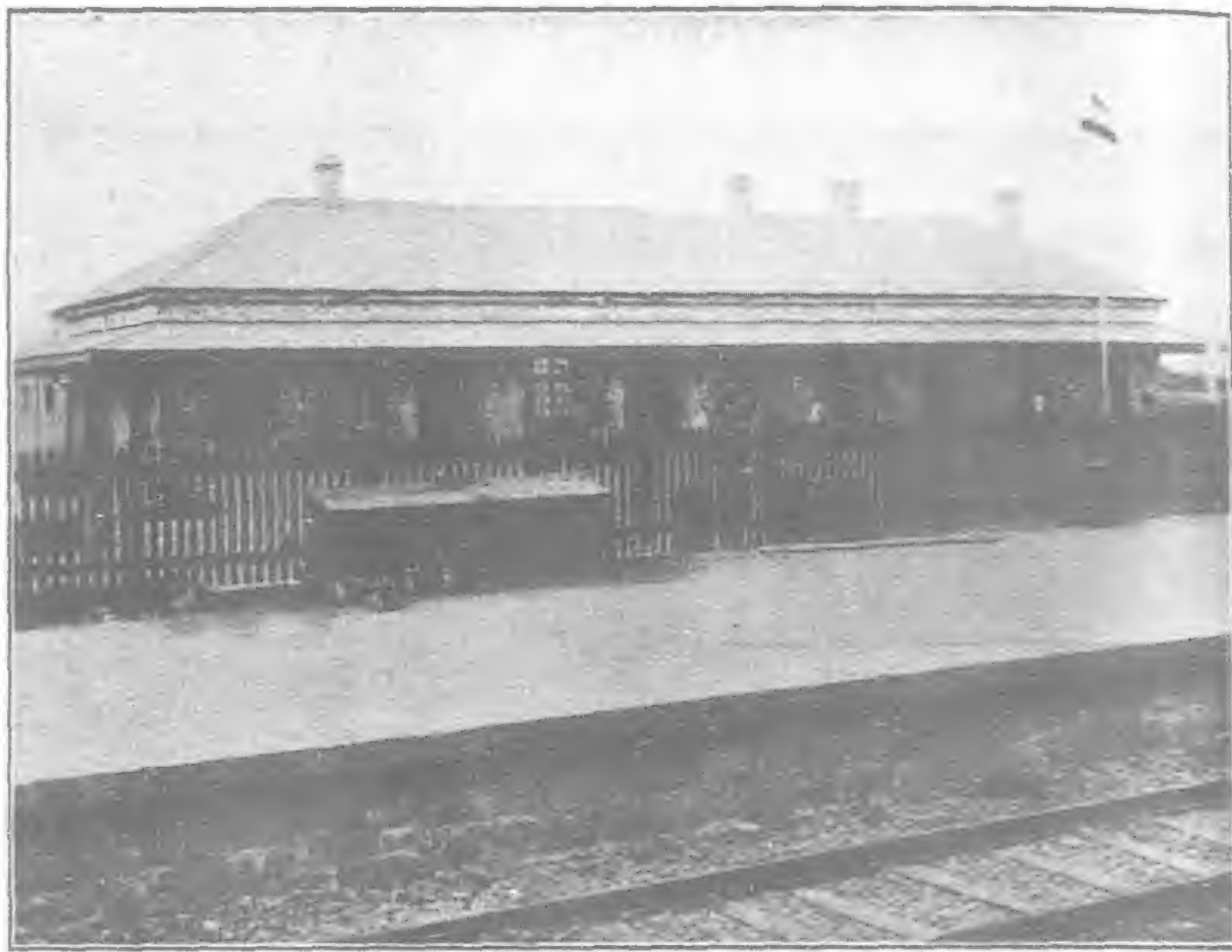
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UP TRAIN TIME TABLE DOWN TRAIN

UP TRAIN			DOWN TRAIN		
Stations		Daily Through Mail Service	Stations		Daily Through Mail Service
Pukow	dep.	9.50	Tientsin East	dep.	9.40
Hsuchowfu	"	7.54	Tientsin Cen.	arr.	9.50
Tsinanfu	"	6.30	Tientsin Cen.	dep.	10.10
Techow	"	9.15	Techow	"	4.52
Tientsin Cen.	arr.	3.07	Tsinanfu	"	8.01
Tientsin Cen.	dep.	3.27	Hsuchowfu	"	7.16
Tientsin East	arr.	3.37	Pukow	arr.	4.30



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1st class, 120 catties; 2nd class, 90 catties; 3rd class, 60 catties.

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Only first class passengers are entitled to book sleeping berths, at \$5.00 per berth.

The Railway ferry steam-launch, lying at the jetty above the Japanese Hulk, will carry passengers across the river forty minutes before the trains leave. Passengers may book their tickets at the office on the ferry jetty.

The through mail, and the mixed trains running between Pukow-Pengpu, Pengpu-Hsuchowfu, Hsuchowfu-Tsinanfu, and Tsinaufu-Tientsin will continue as before. For time refer to the Time Table.

For further particulars, etc., apply to the Traffic Department at Tientsin or Branch Office, Nanking.



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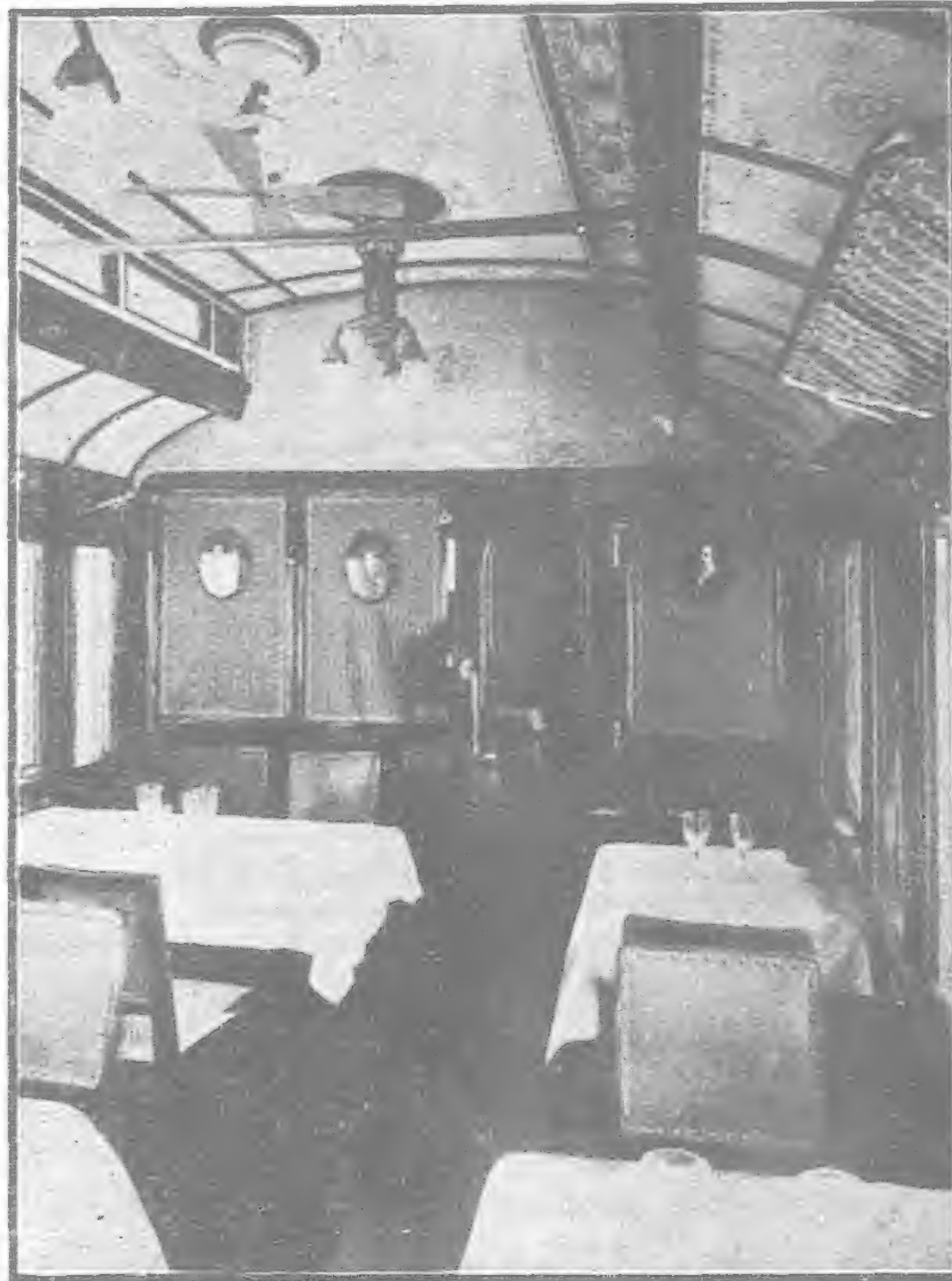
(*Schantung Eisenbahn Gesellschaft*)

The Road Through the Country of Confucius

The country traversed by this line is thought by many to be the most picturesque to be found in China. The length of the main line from Tsingtau to Tsinanfu is 400 km. and the length of the Pcschan branch is 40 km. There are in addition branches to Hungshan, the Hsiau-ching-ho Canal and the Yellow River.

A lovely view is afforded of Kiauchou Bay as the train leaves Tsingtau.

Thereafter magnificent and diversified scenery is encountered and innumerable places of historical interest are traversed.



Interior of Dining Car

Facilities are afforded for through tickets carrying the passenger over the Tientsin-Pukow Line, giving a good connection with Express trains from and to Europe.

Tickets for the Shantung Traffic is running from the Railway can be obtained at the Agencies of Thos. Cook & Co., Ltd., The International Sleeping Car Co., and the Nordisk Resebureau in Asia and Europe.

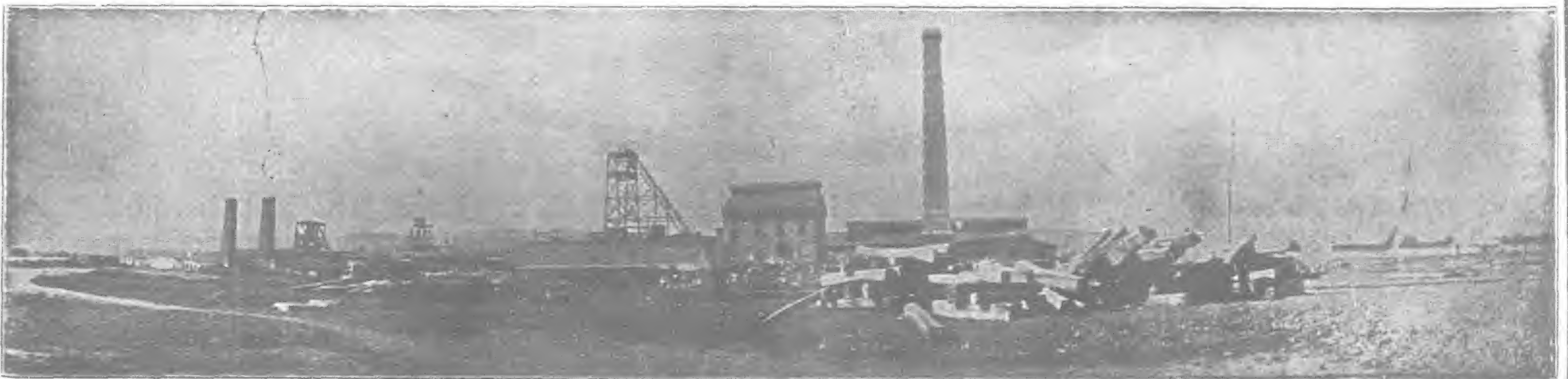
Shantung Railway to the Tientsin-Pukow Railway and vice versa without changing cars at Tsinanfu.

CHINESE GOVERNMENT RAILWAYS

THE TAO-CHING RAILWAY

TAOKOU TO CHINGHUA

(CHINESE GOVERNMENT HONAN LINE)



GENERAL VIEW OF COAL MINES ON THE LINE OF THE TAO-CHING RAILWAY

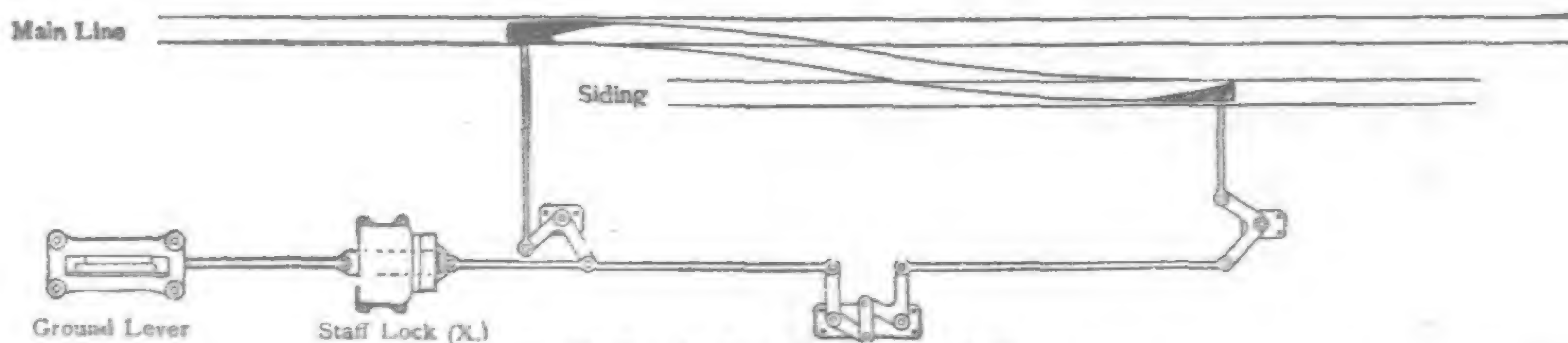
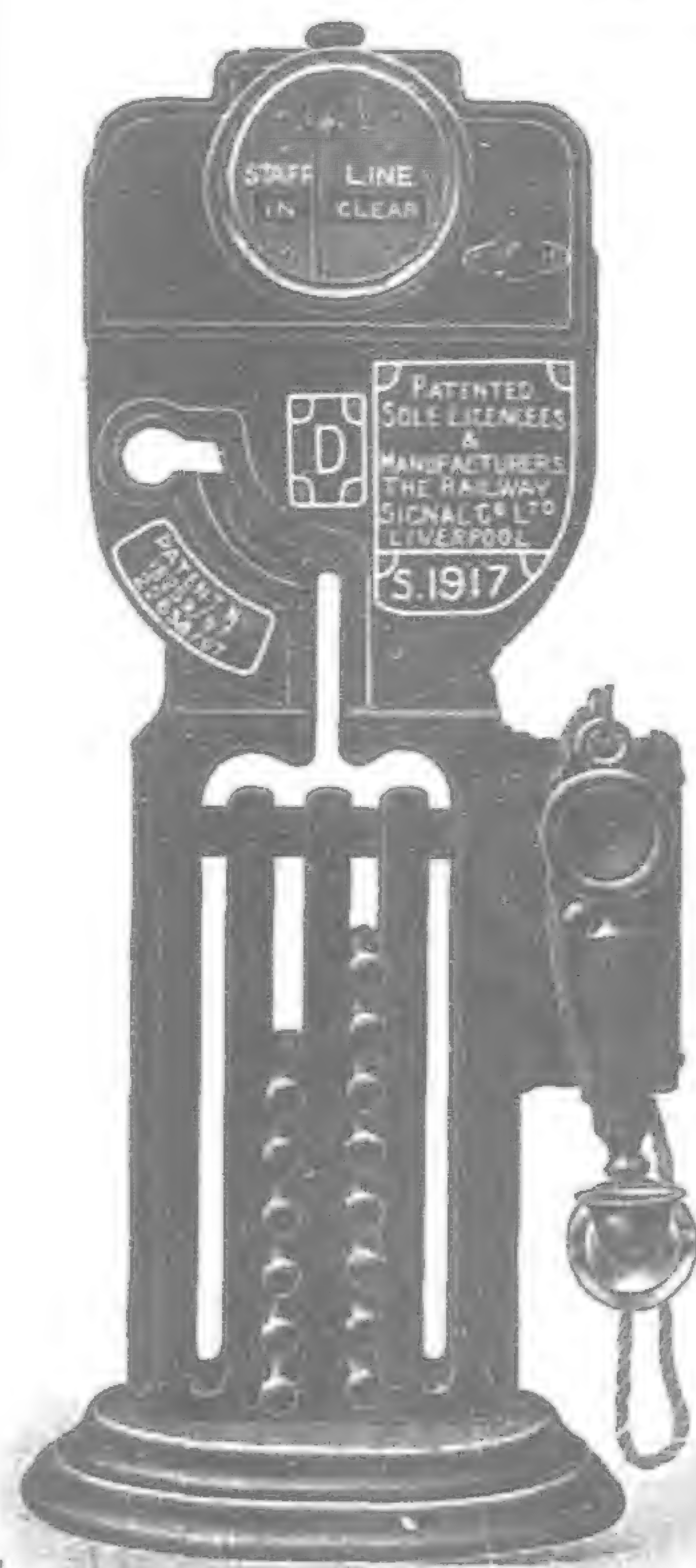
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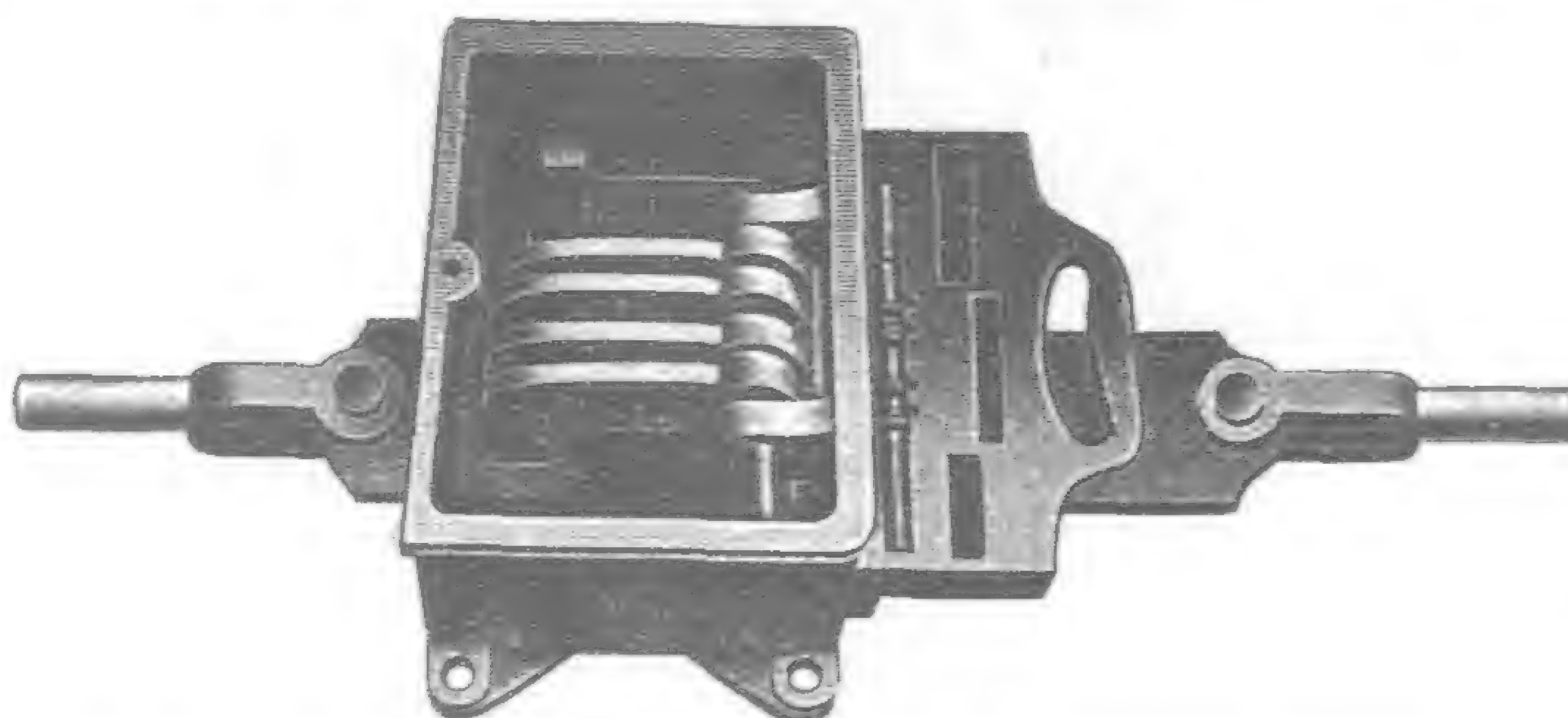
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Staff Lock (X) with cover removed, for Outlying Sidings.

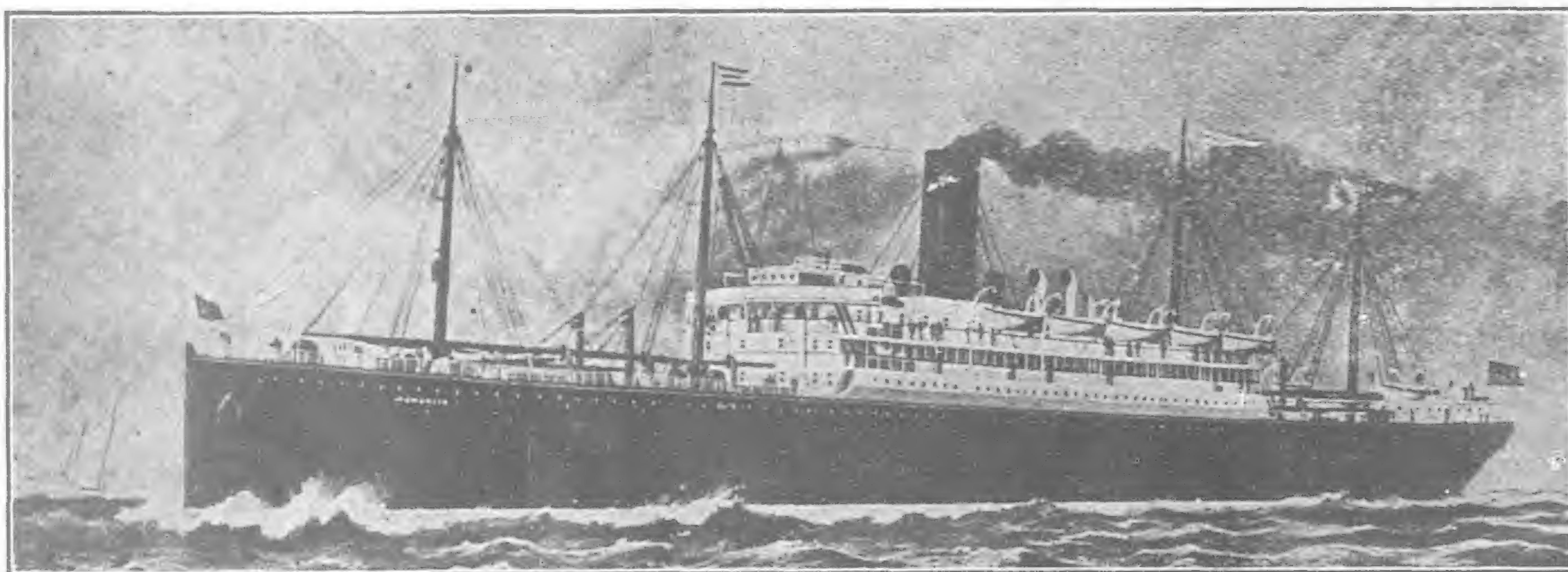
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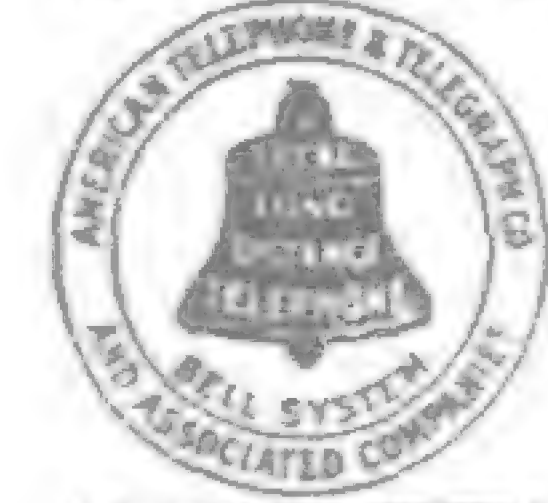
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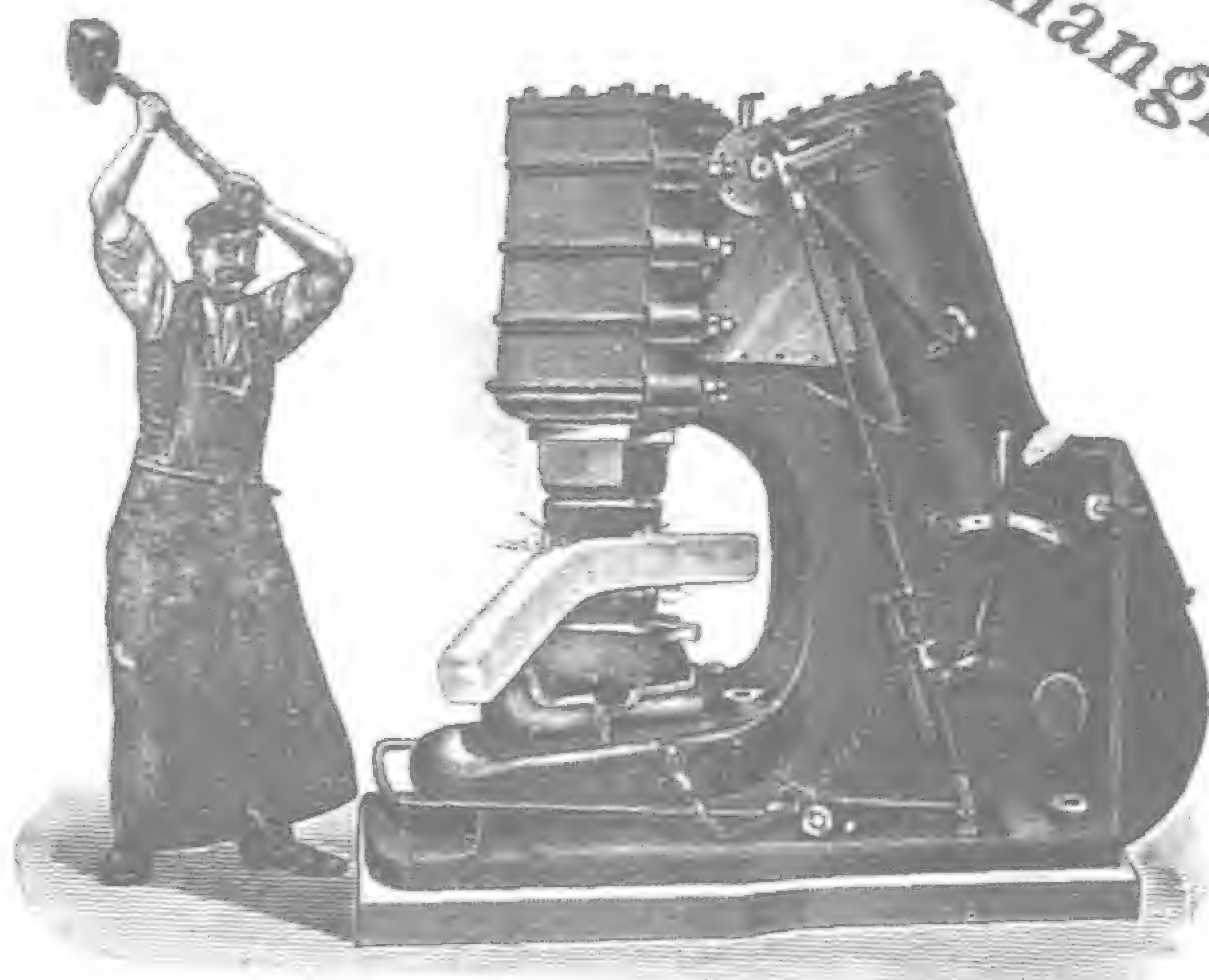
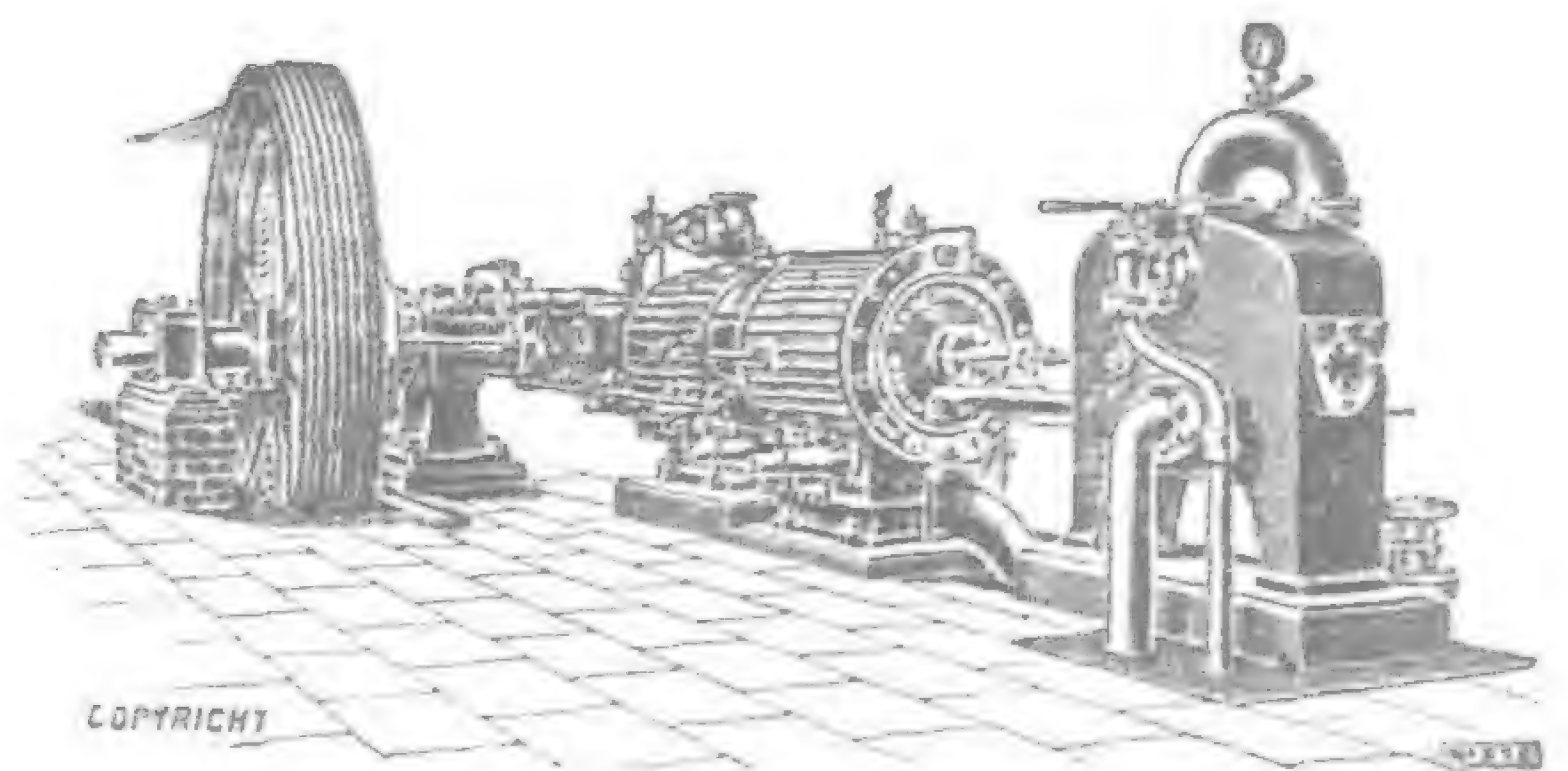
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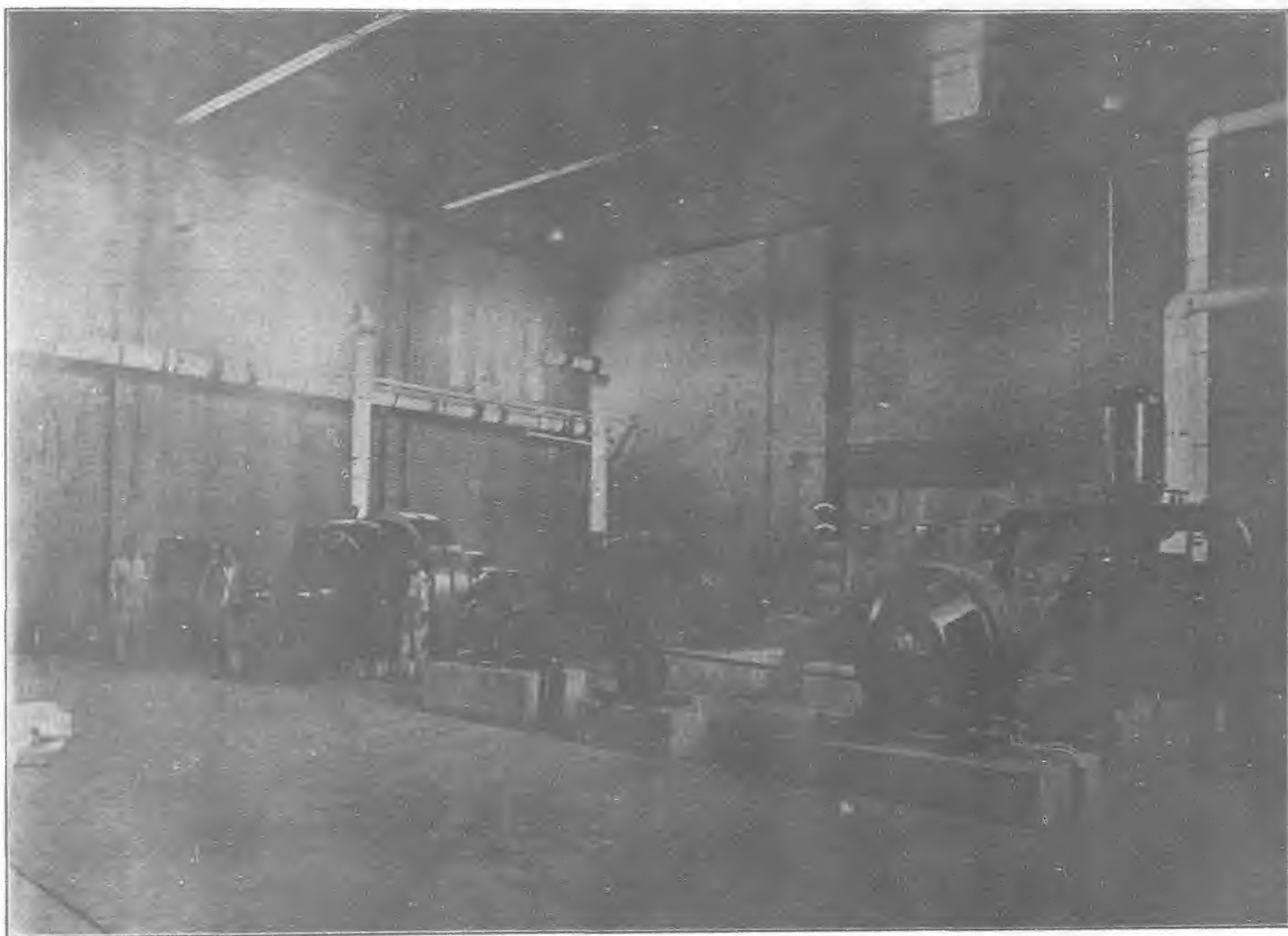
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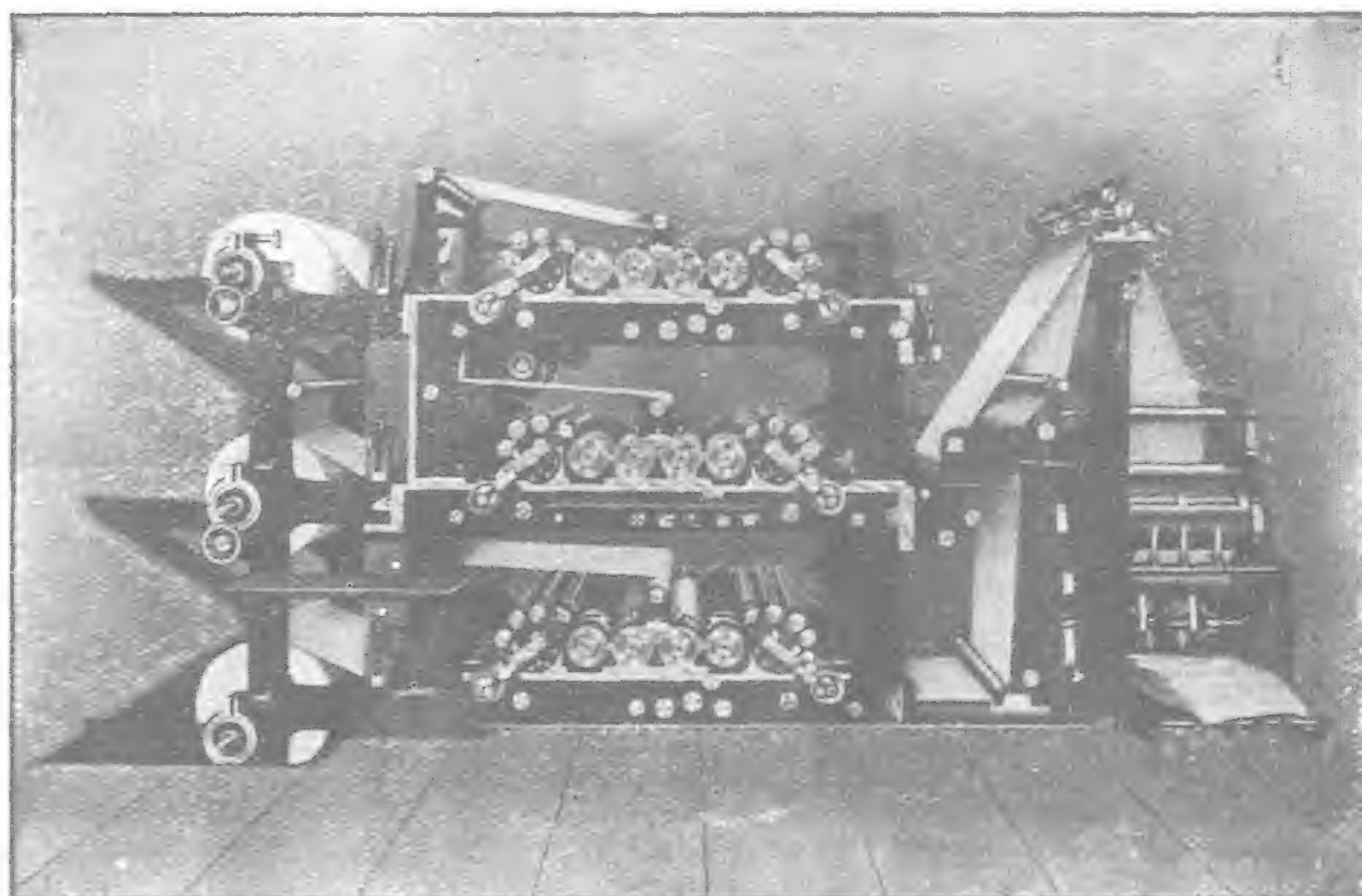
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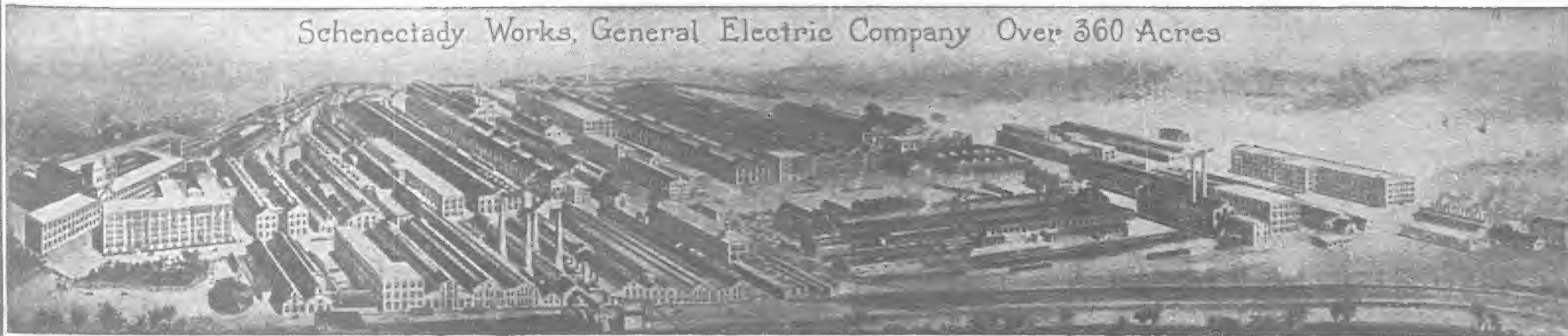
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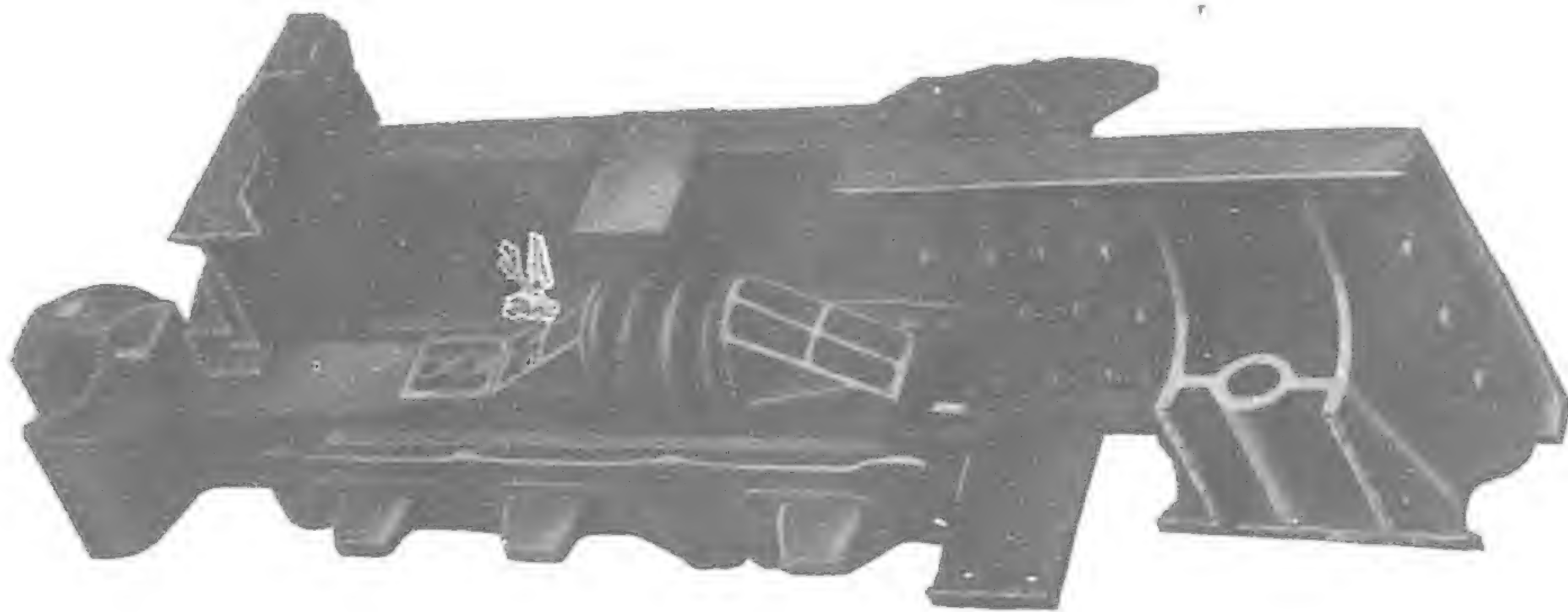
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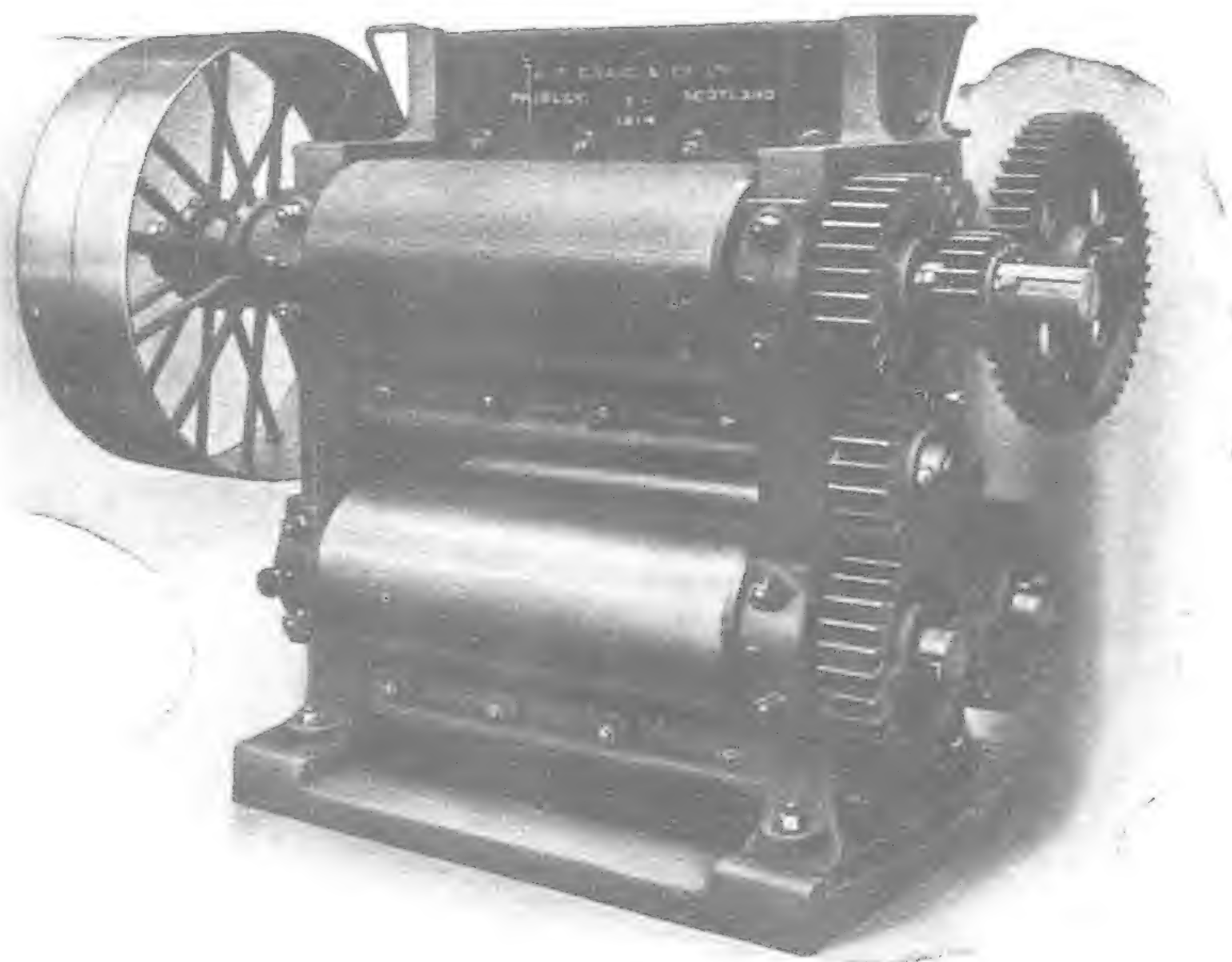
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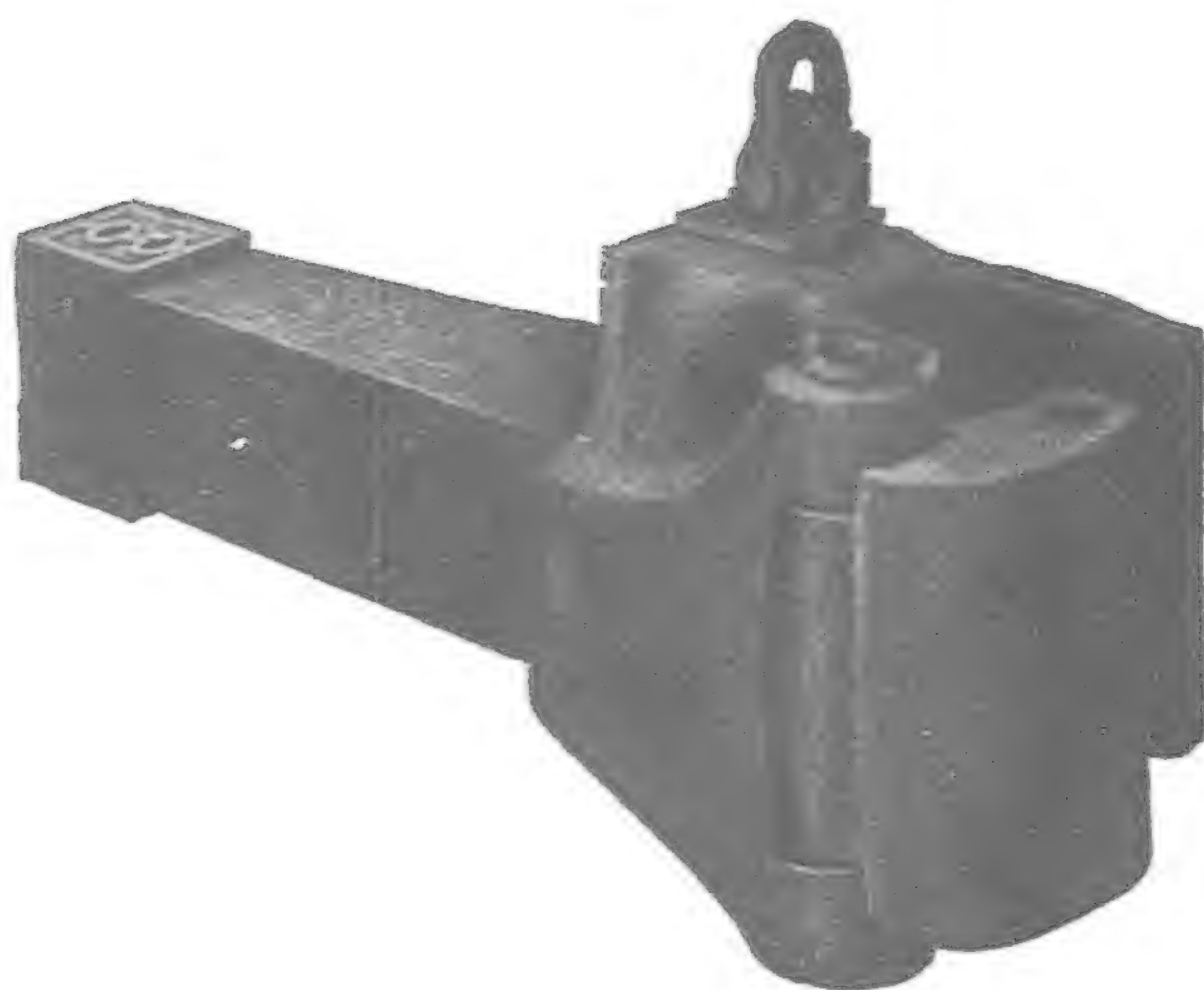
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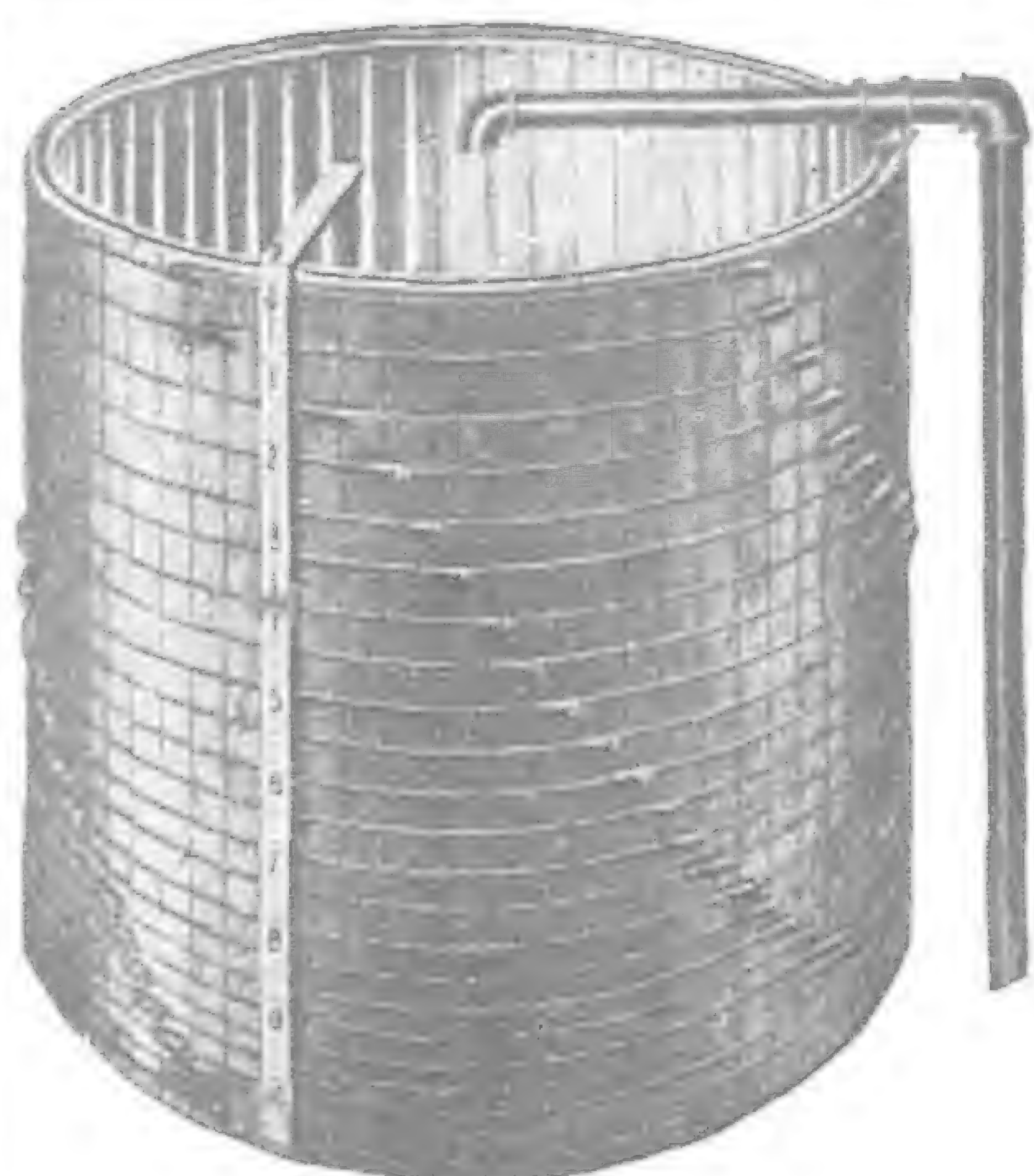
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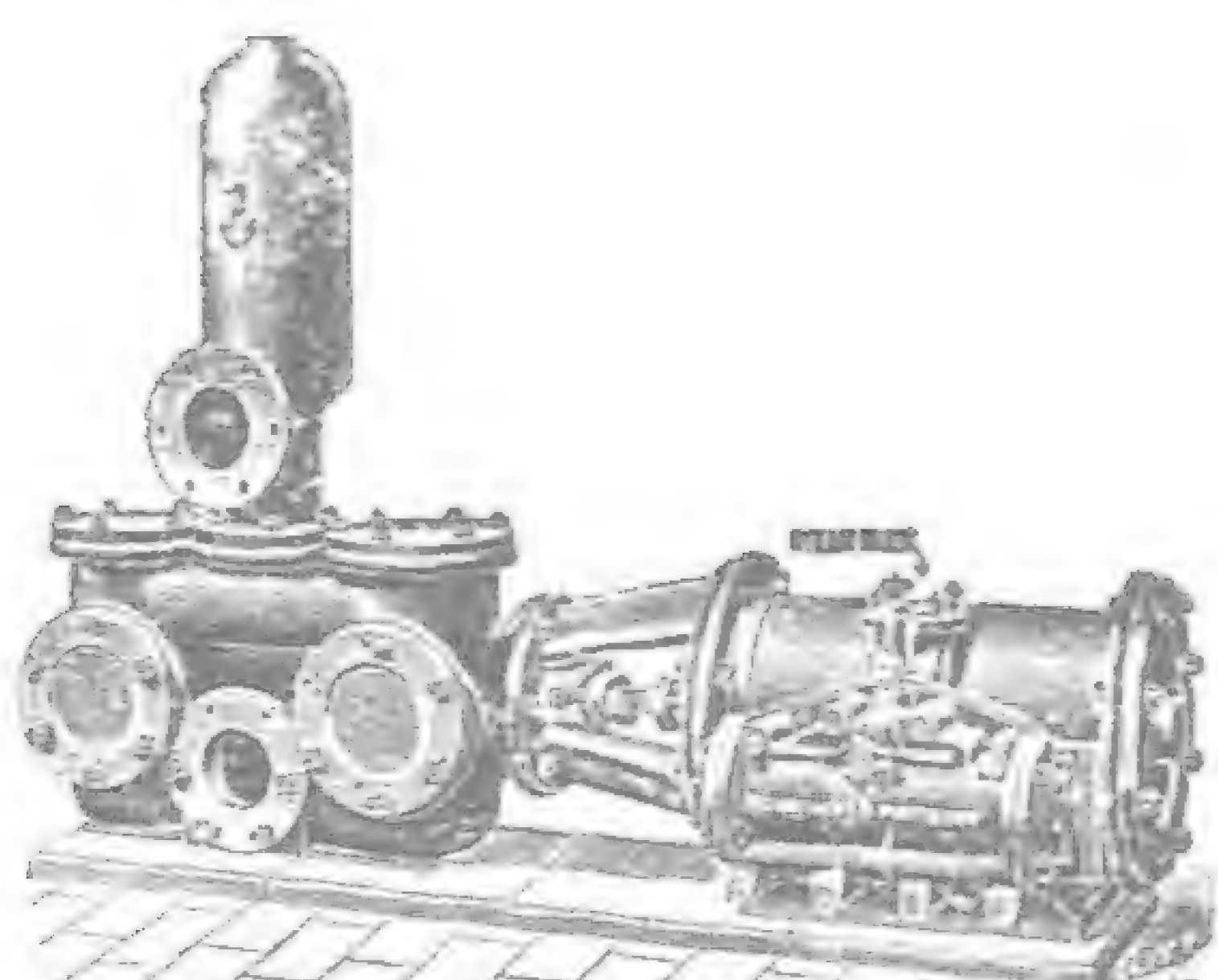
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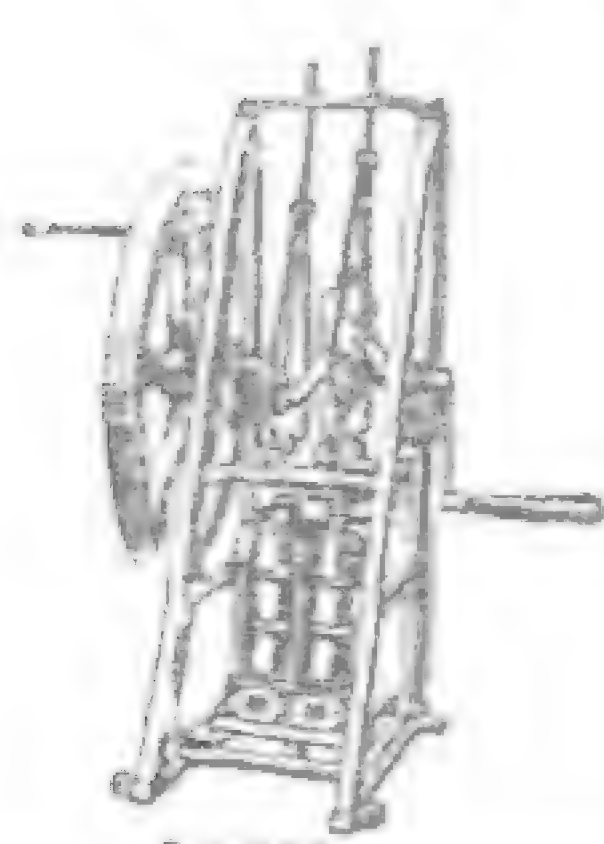
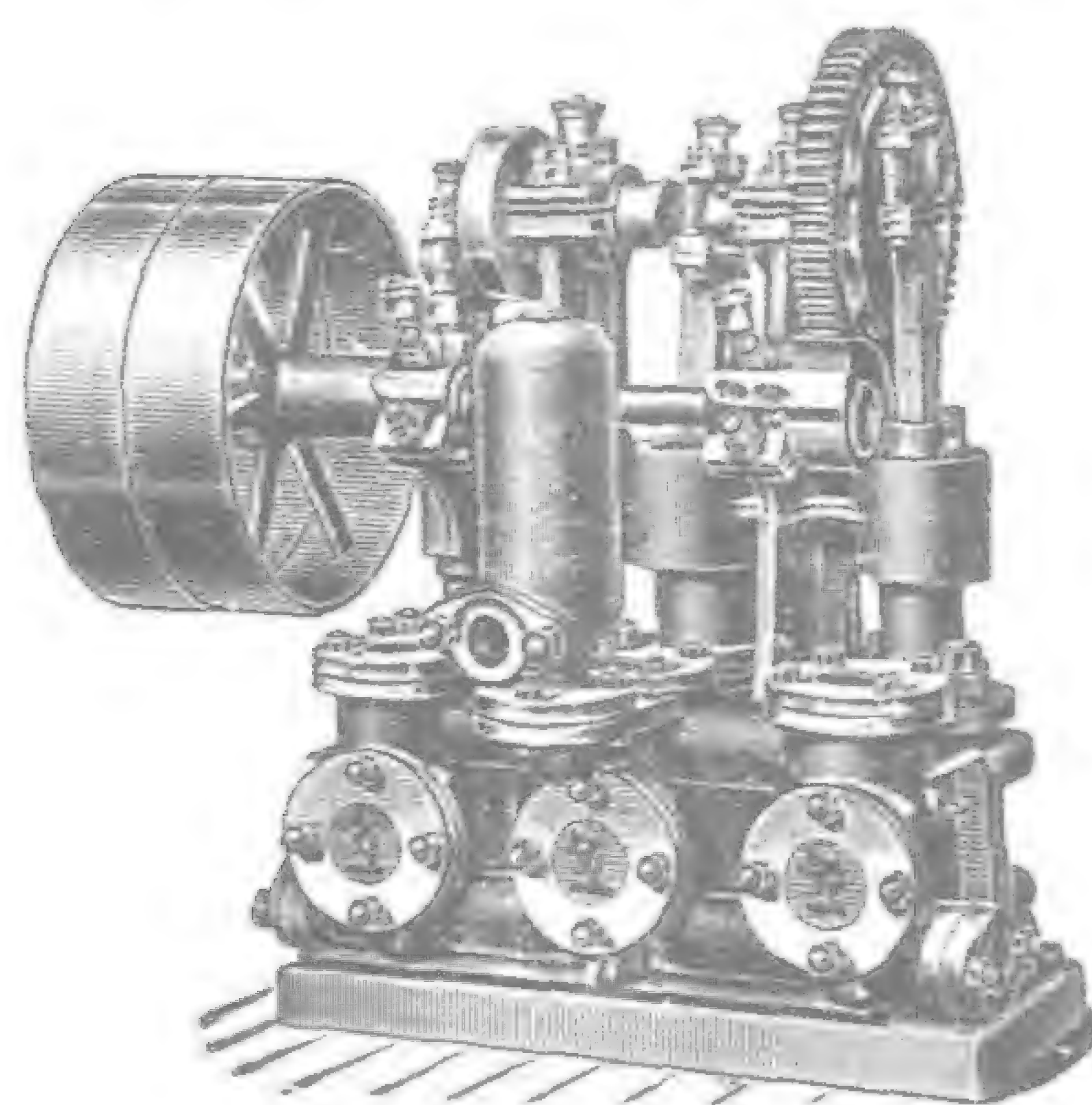
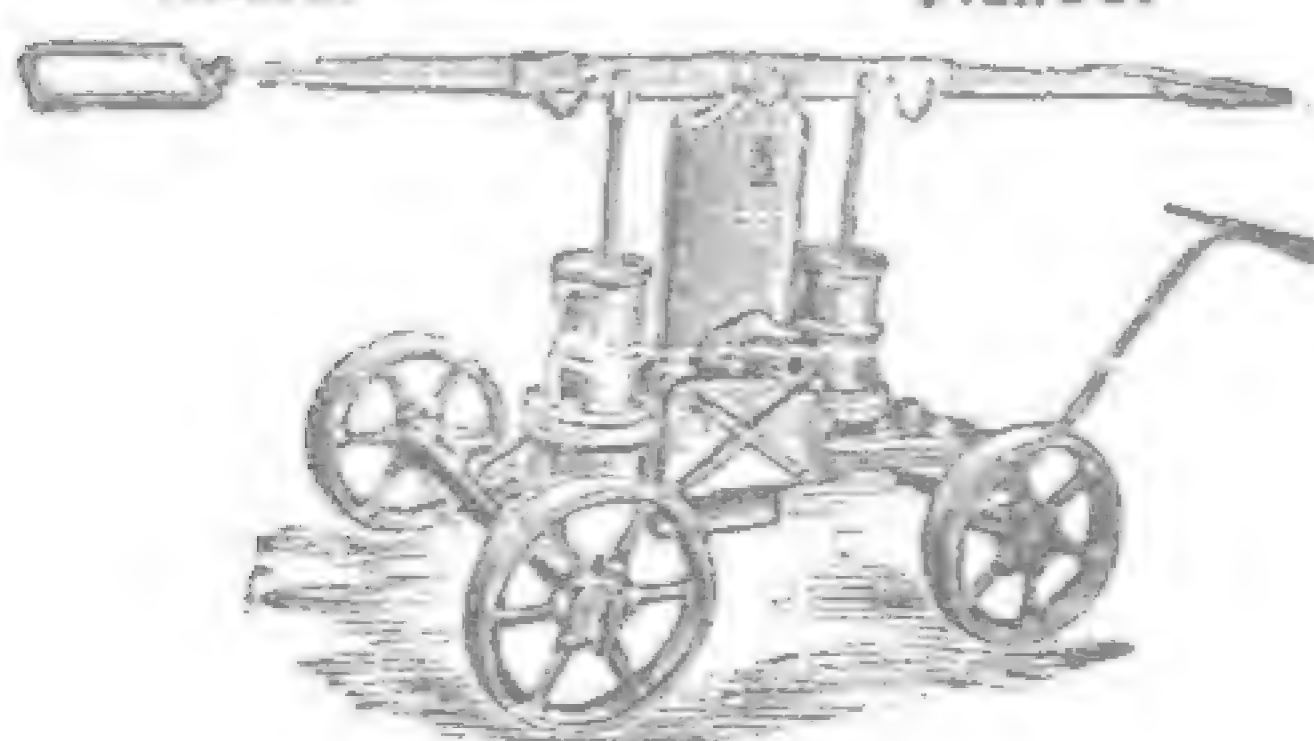


Fig. 226.



Fig. 160.

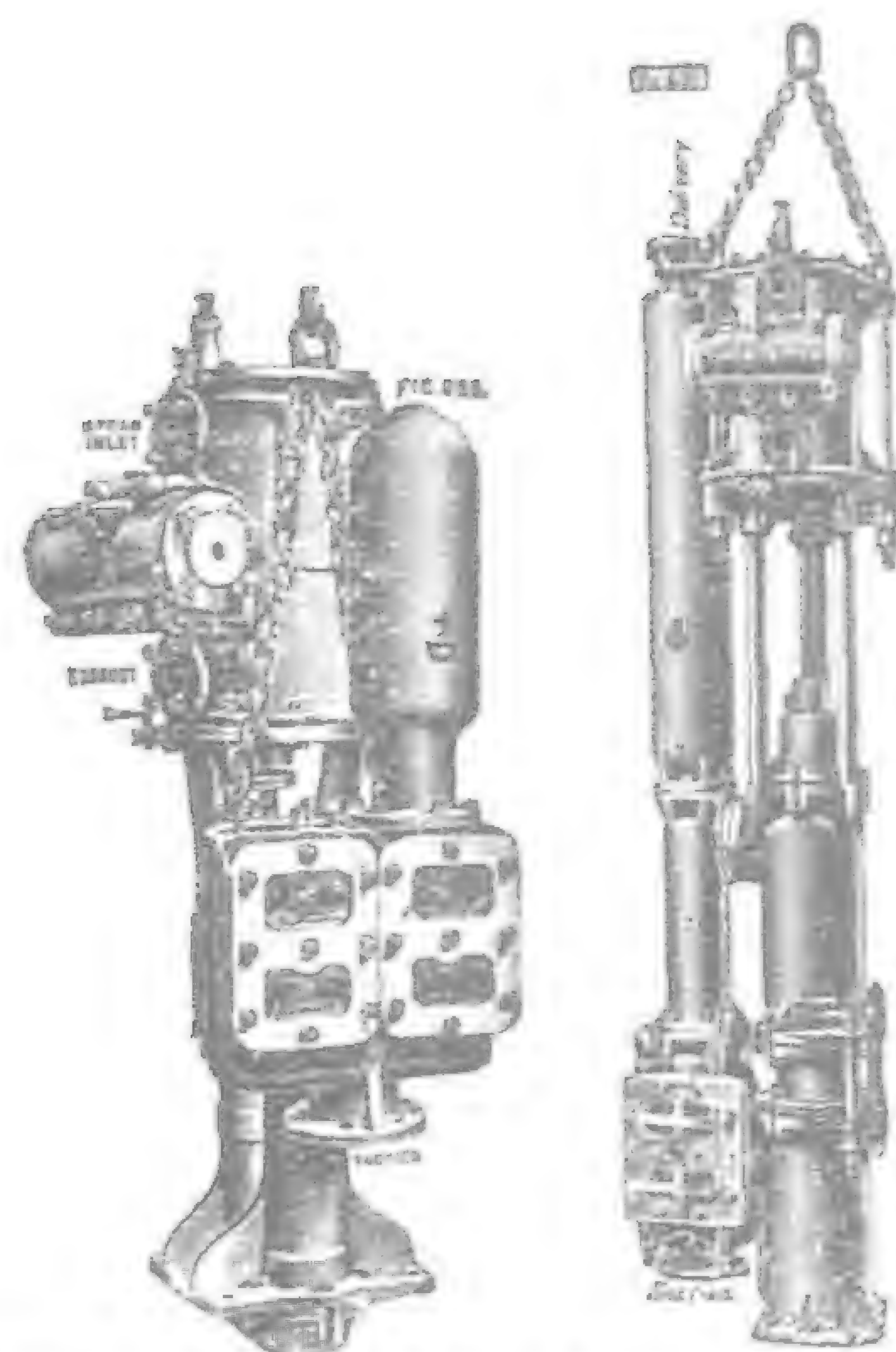


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Fig. 191.

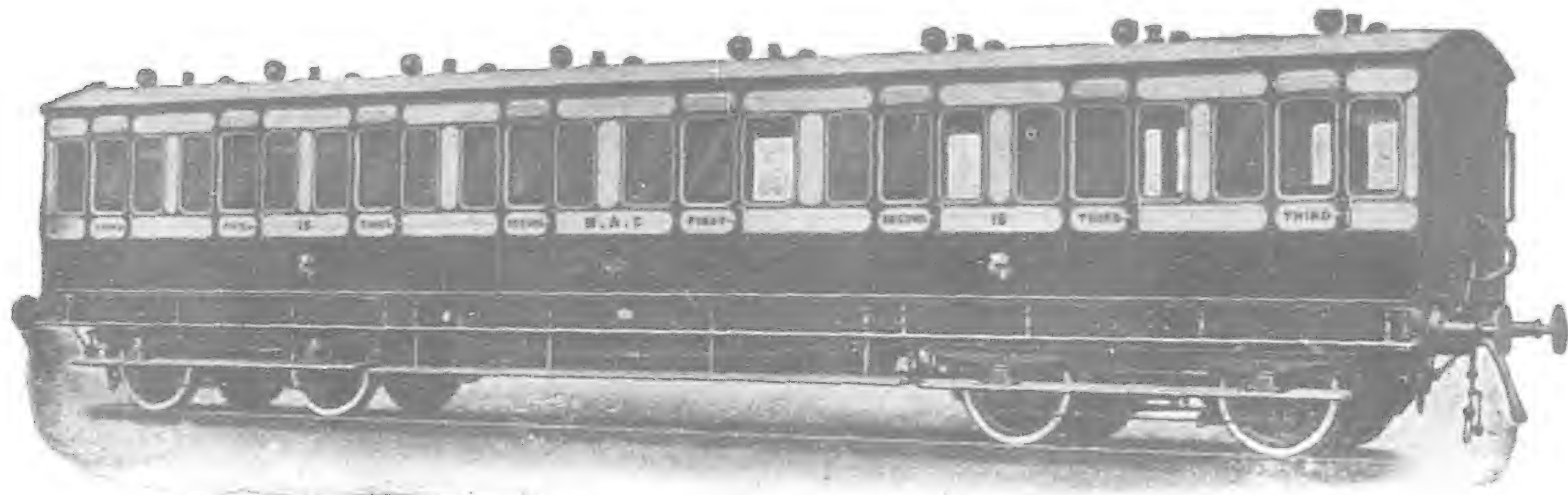


Fig. 185.

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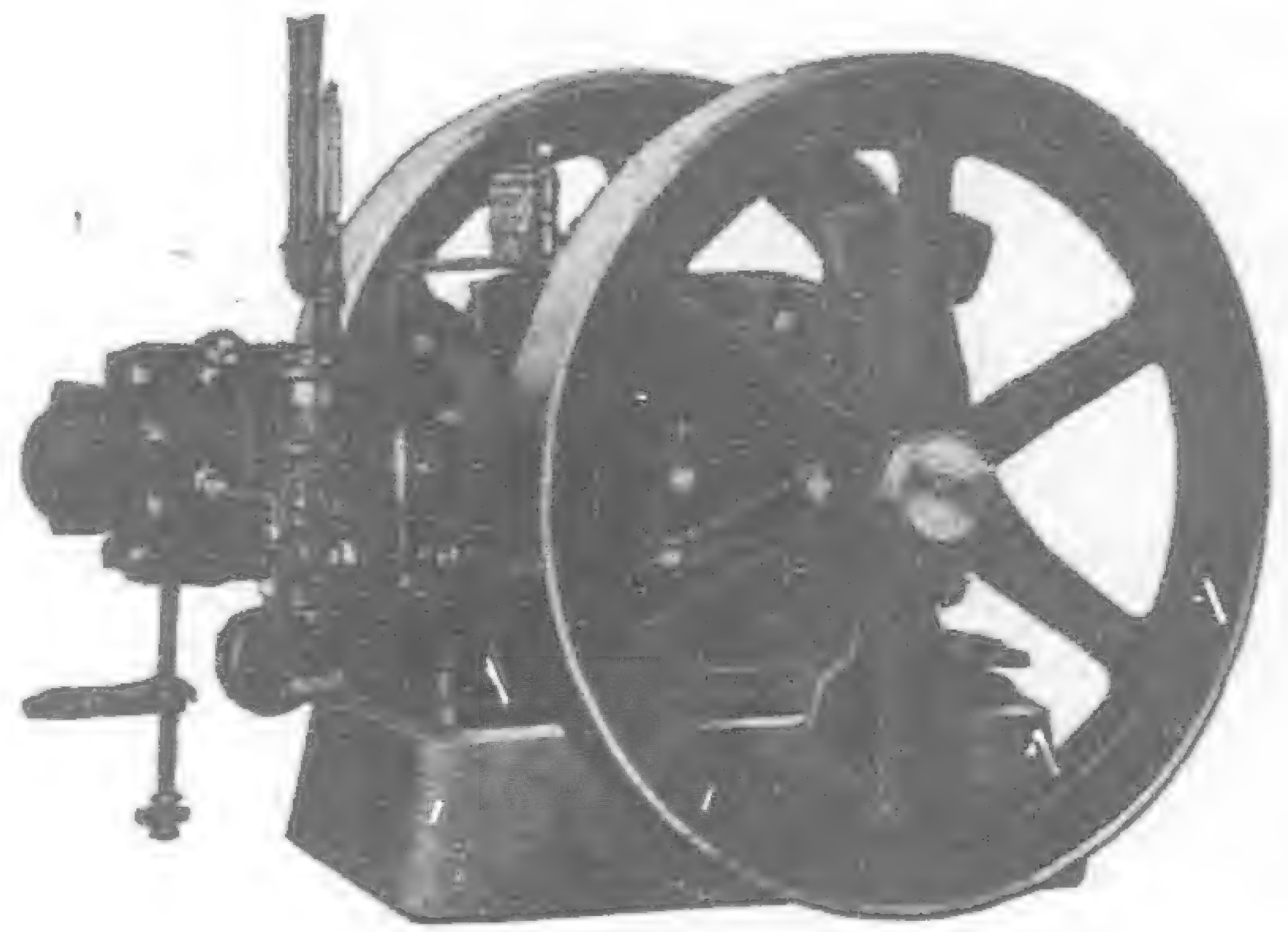
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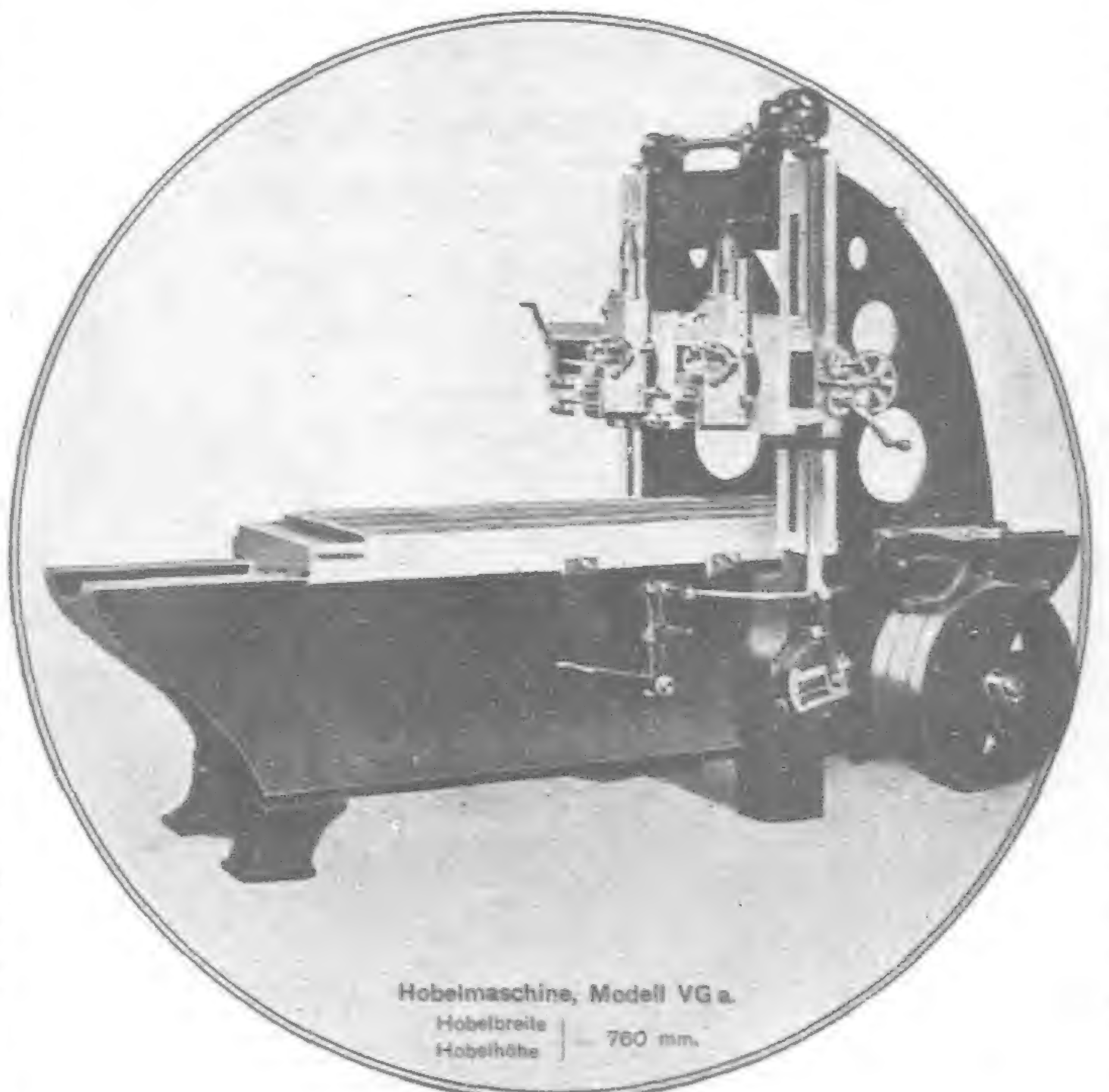
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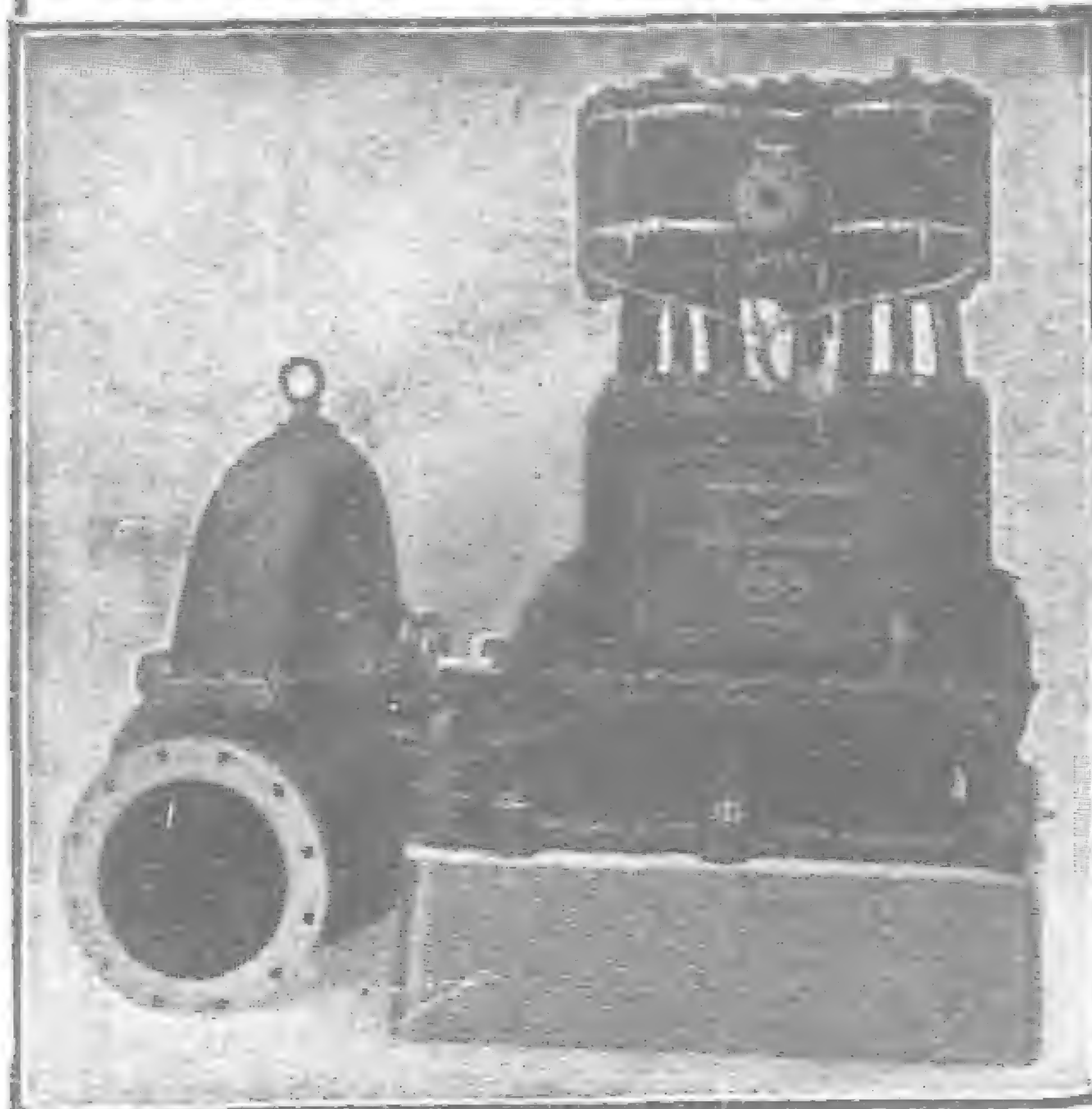


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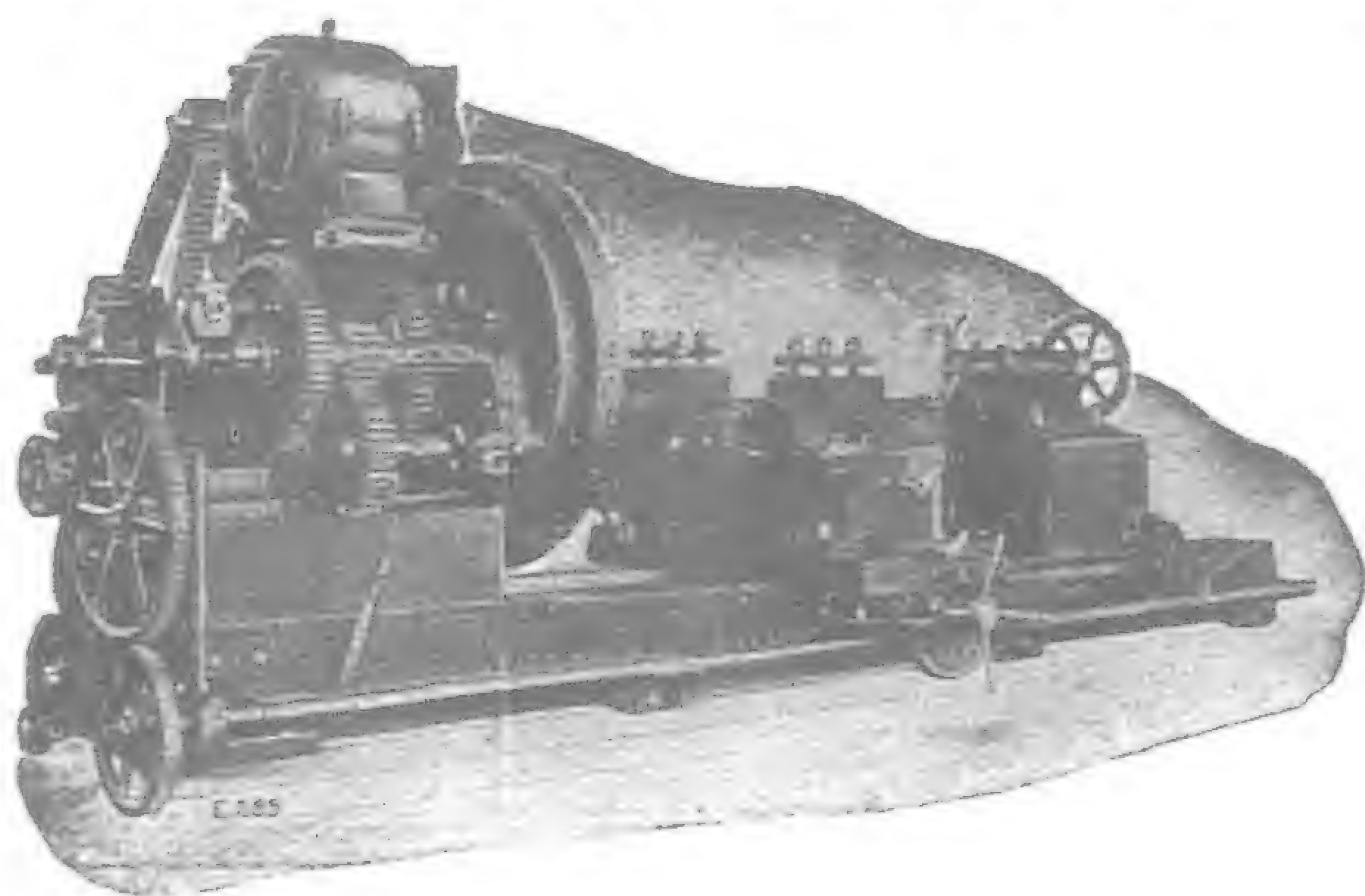
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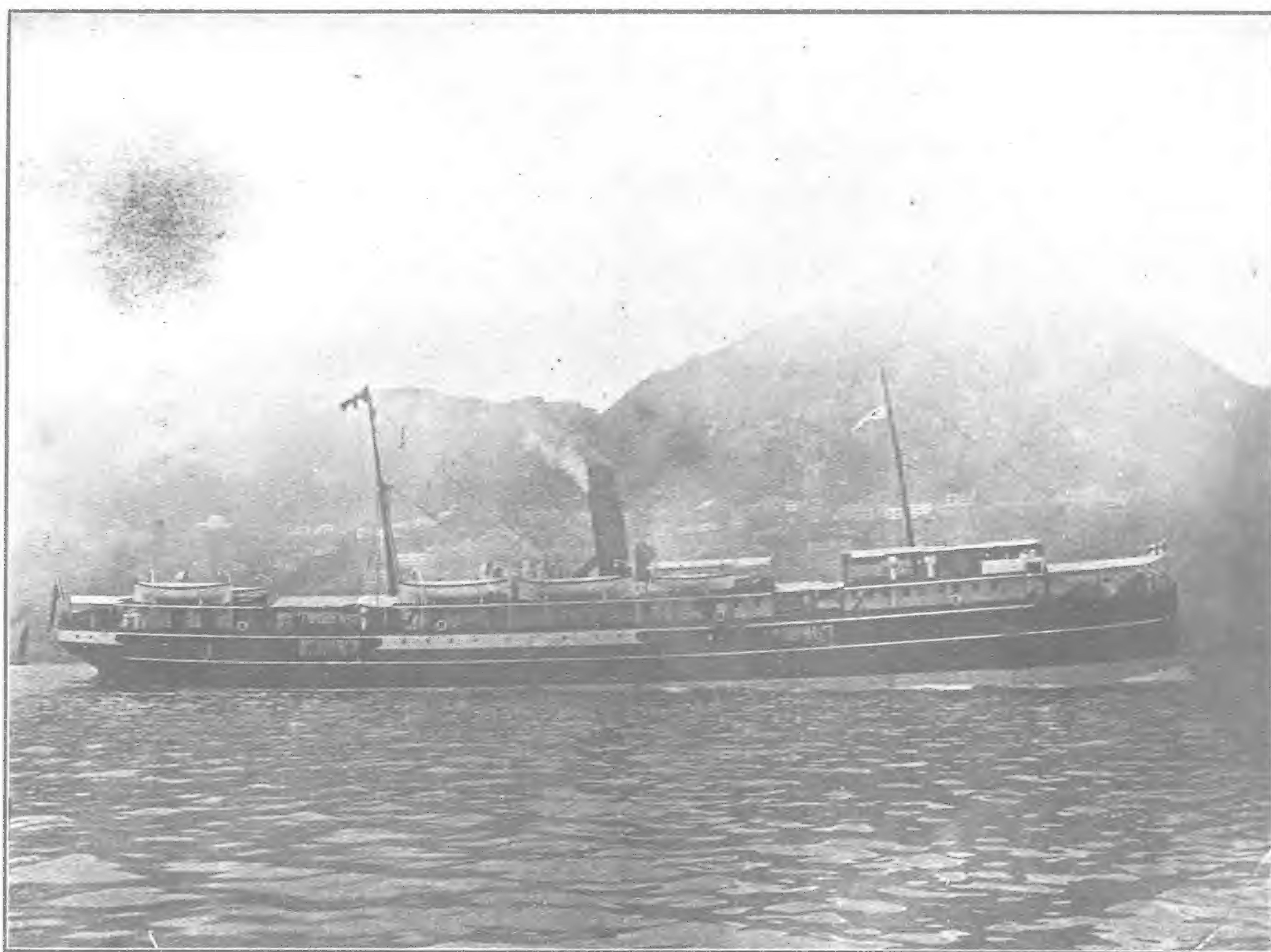
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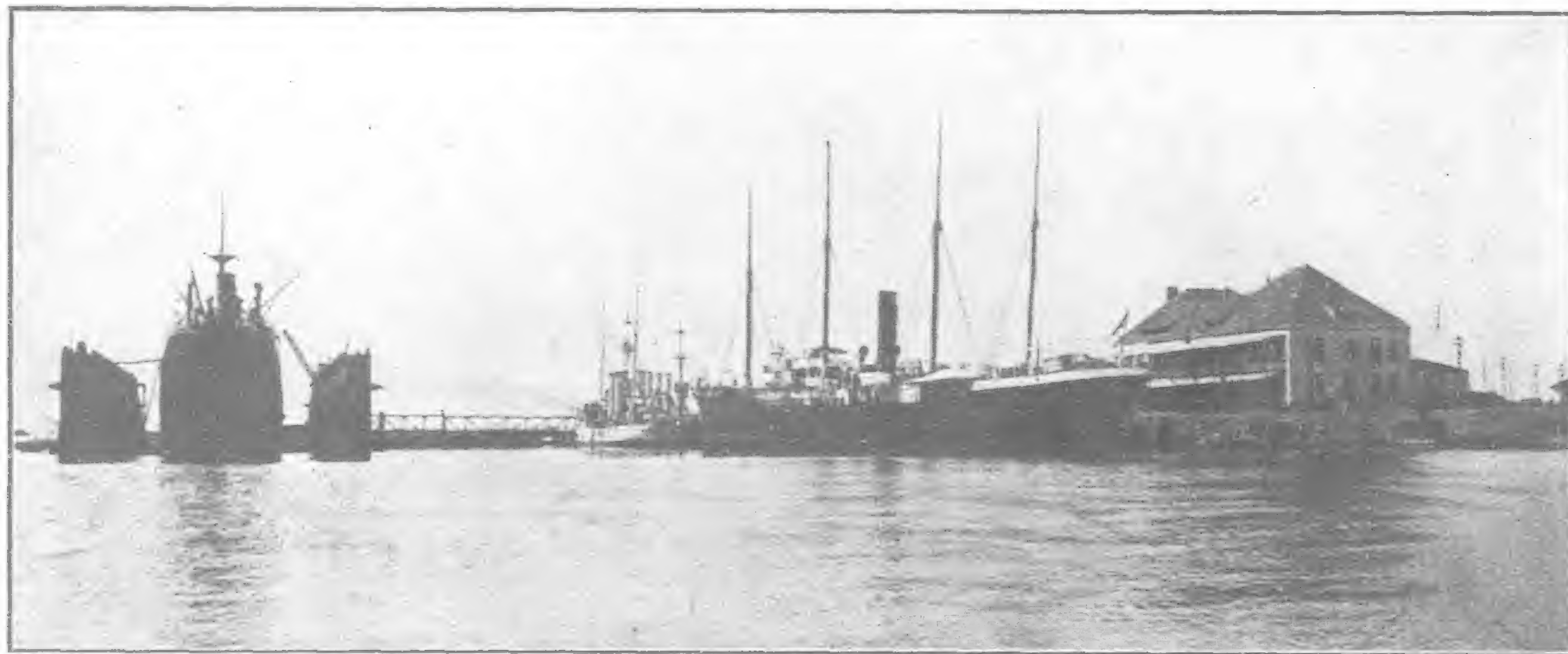
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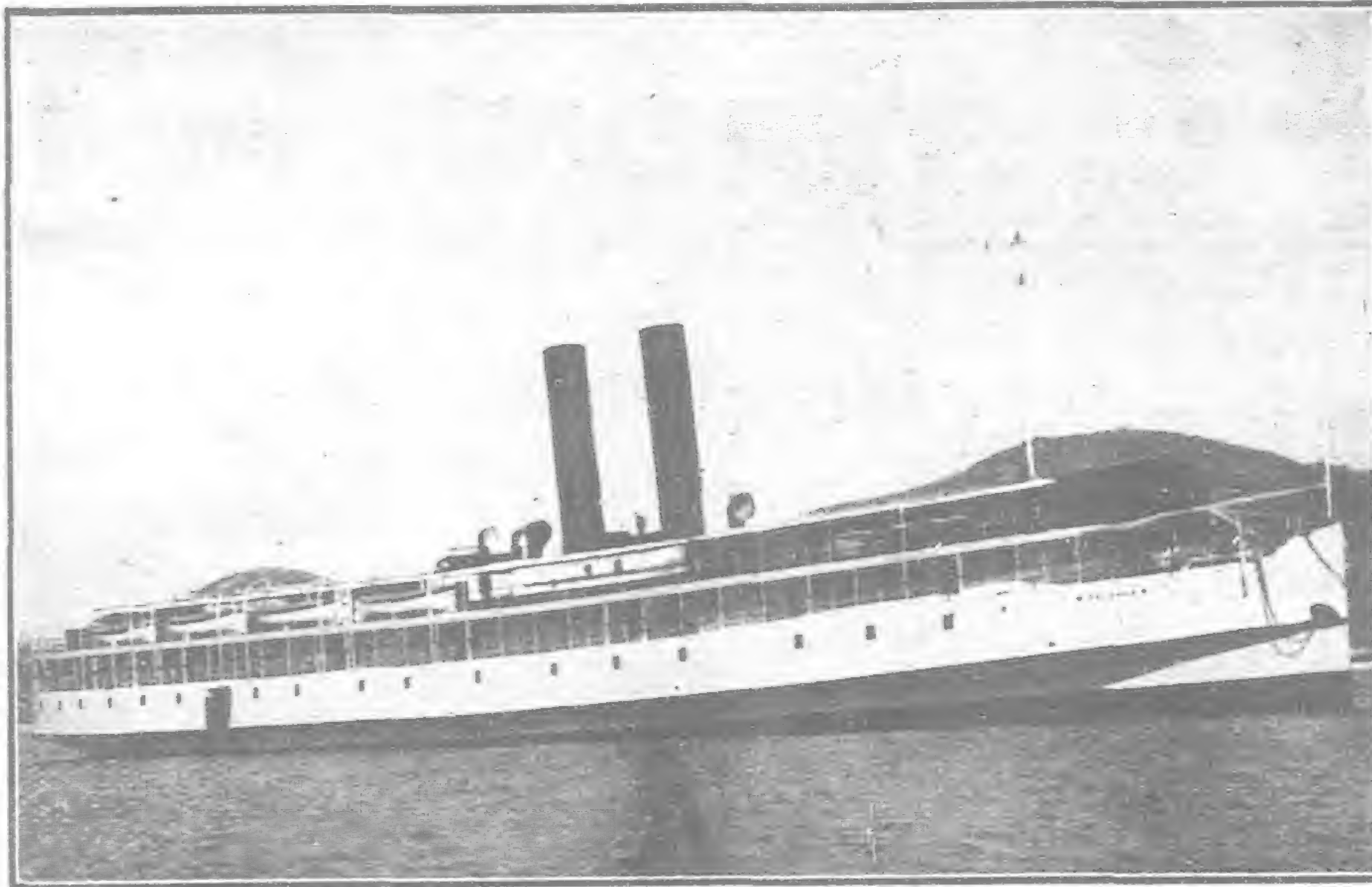
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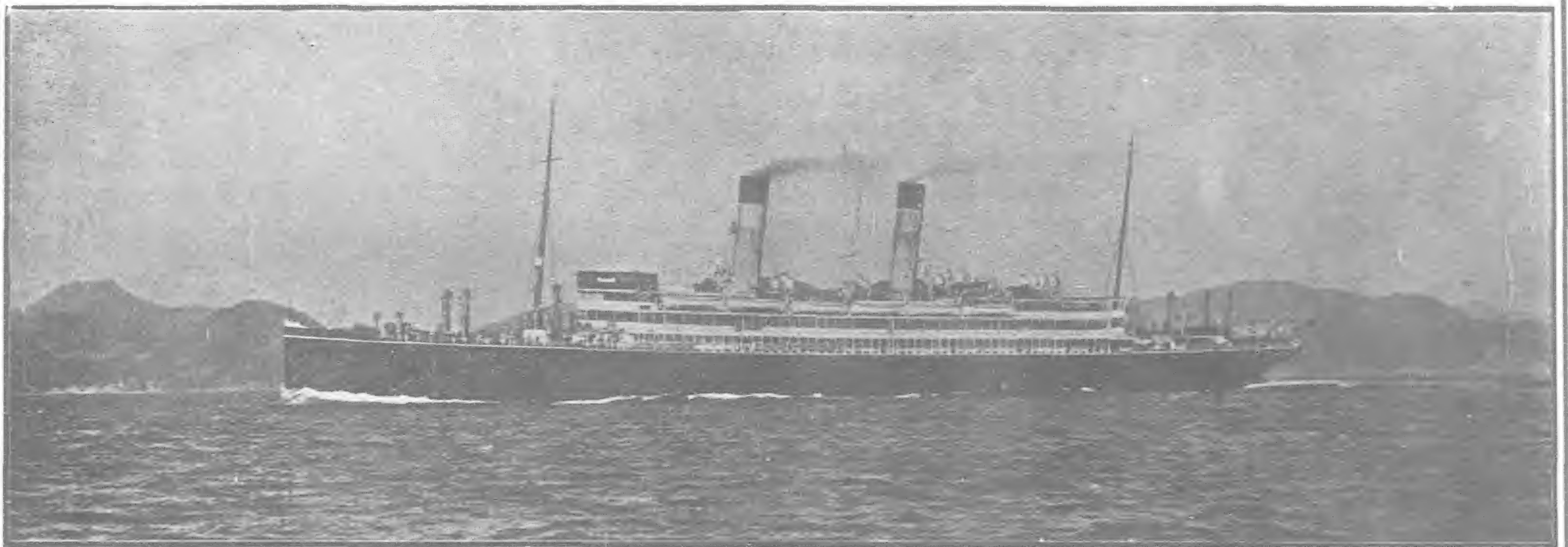
Name of Dock or Slip	Length on Keel Blocks	Entrance Breadth	Depth Over Still at Ordinary Spring Tides	Rise of Tide	
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No. 1 Dock, Kowloon - - -	700	{ 86 ft. top 70 ft. bottom }	30'	7' 6"	3
No. 2 Dock, Kowloon - - -	371	74'	18' 6"	7' 6"	—
No. 3 Dock, Kowloon - - -	264	49' 3"	14'	7' 6"	—
Patent Slip, No. 1, Kowloon -	240	60'	14'	7' 6"	—
Patent Slip, No. 2, Kowloon -	220	60'	12'	7' 6"	—
TAI-KOK-TSUI					
Cosmopolitan Dock - - - -	466	85' 6"	20'	7' 6"	—
ABERDEEN					
Hope Dock - - - - -	430	84'	23'	7' 6"	—
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Width of Entrance on top	88	"	Width of Entrance on top	66	"	Width of Entrance, top	99½	"
" " " " Bottom	77	"	" " " " Bottom	53	"	" " " " Bottom	88½	"
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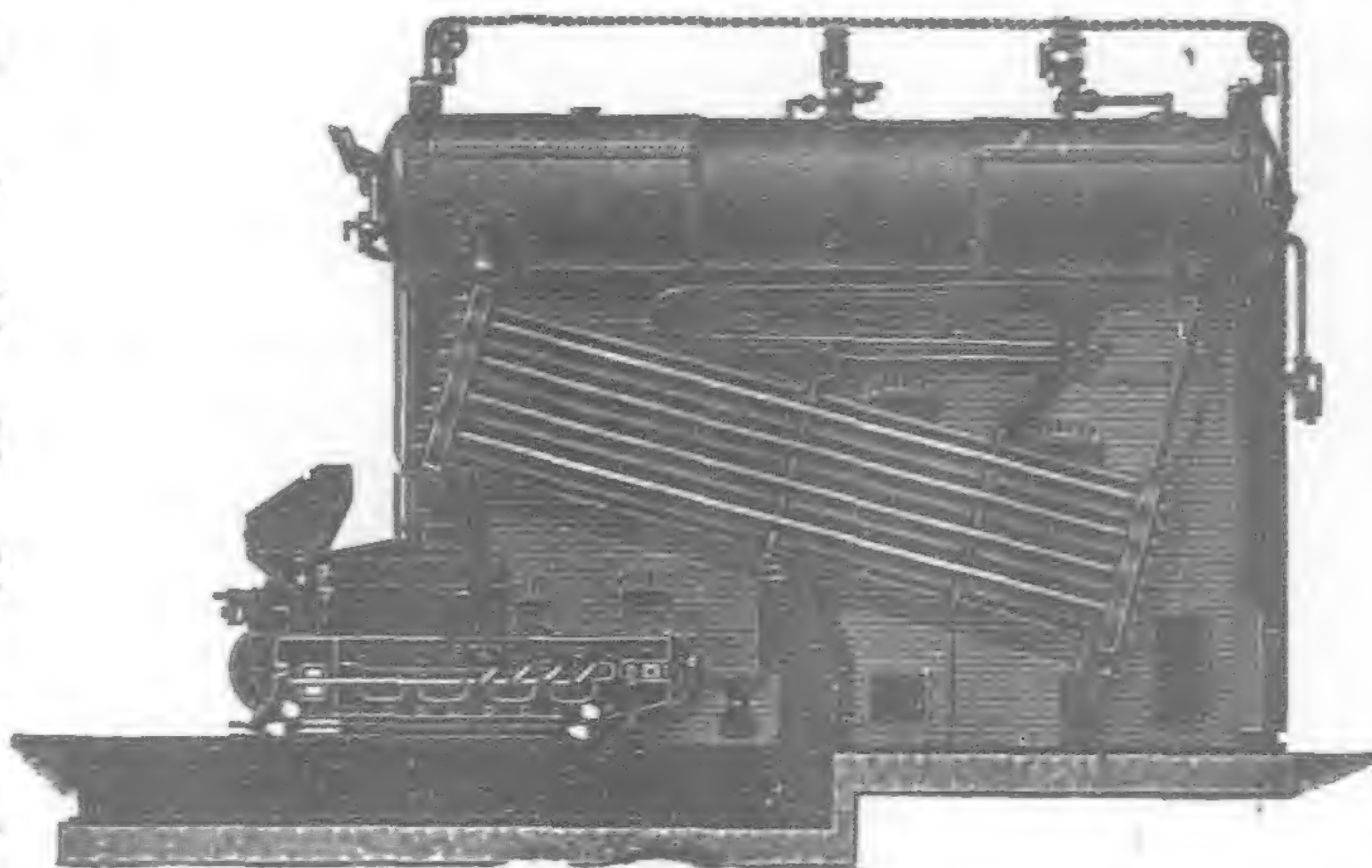
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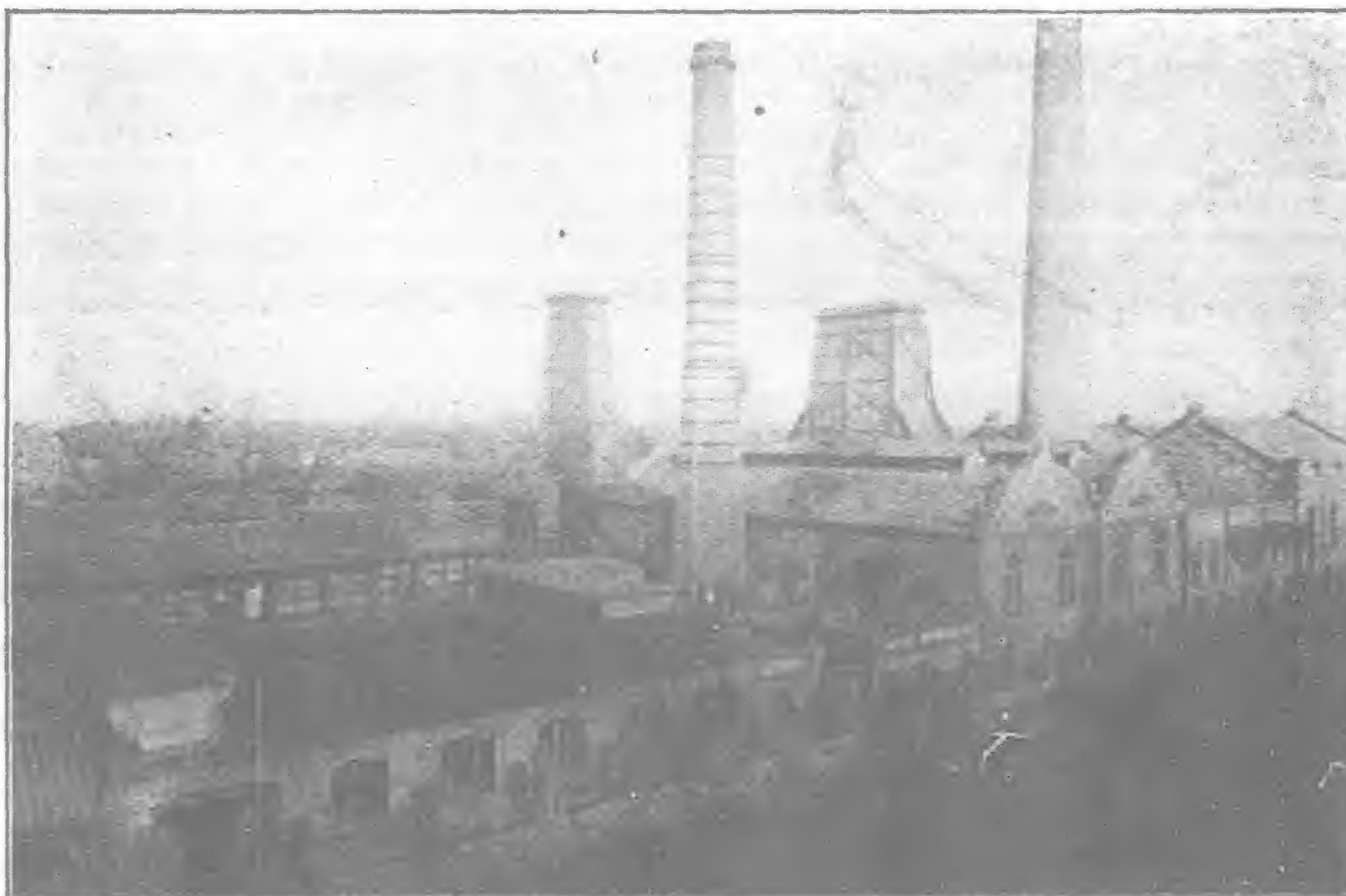
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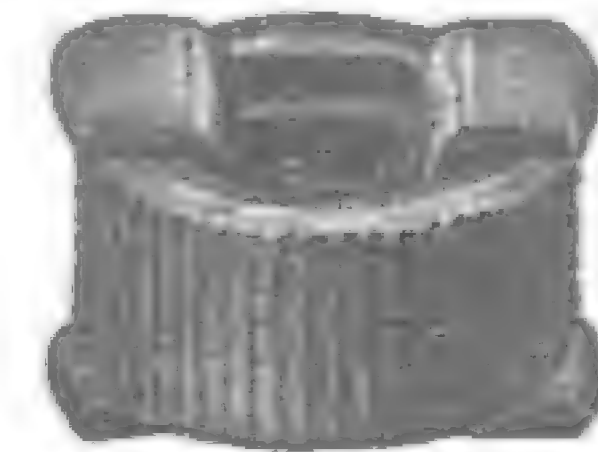
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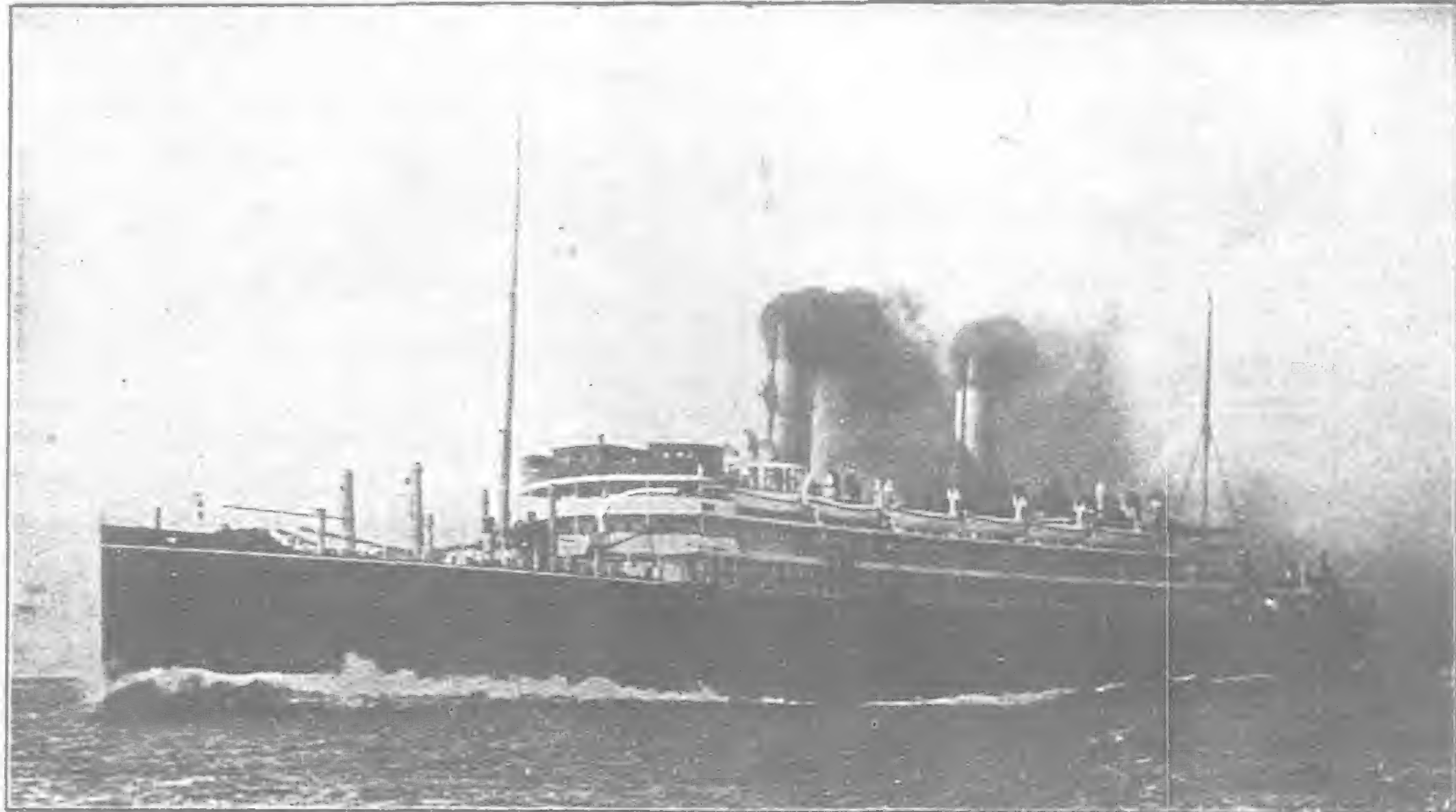
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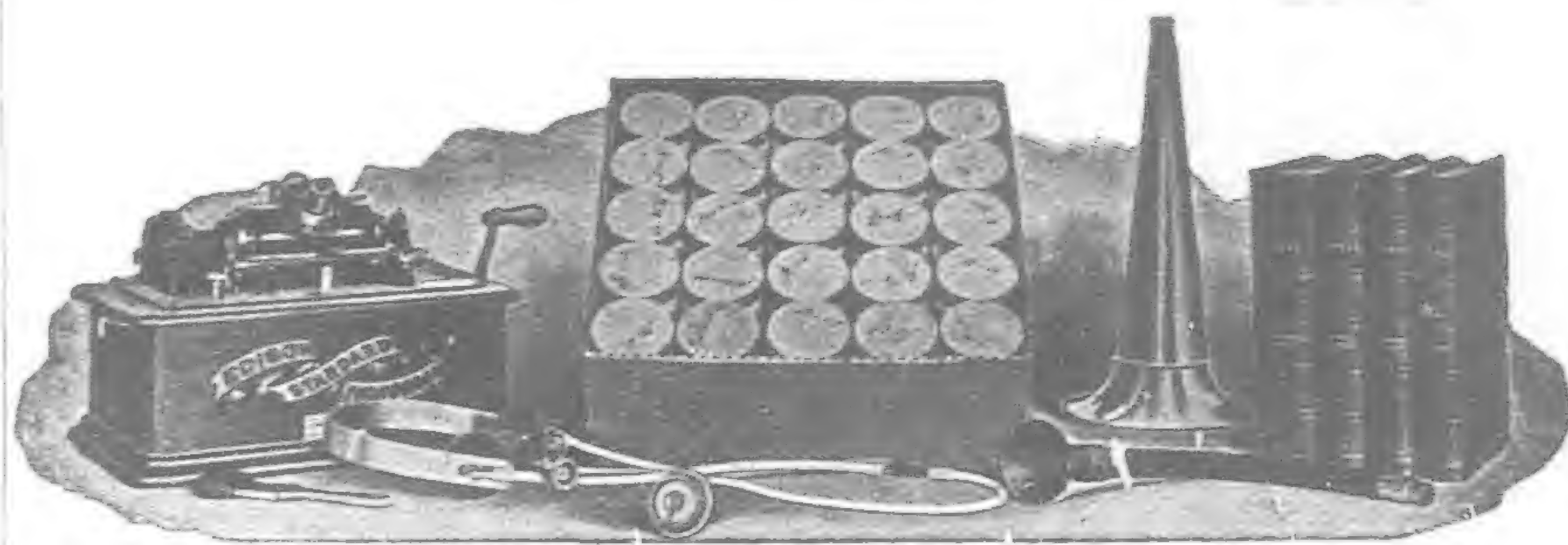
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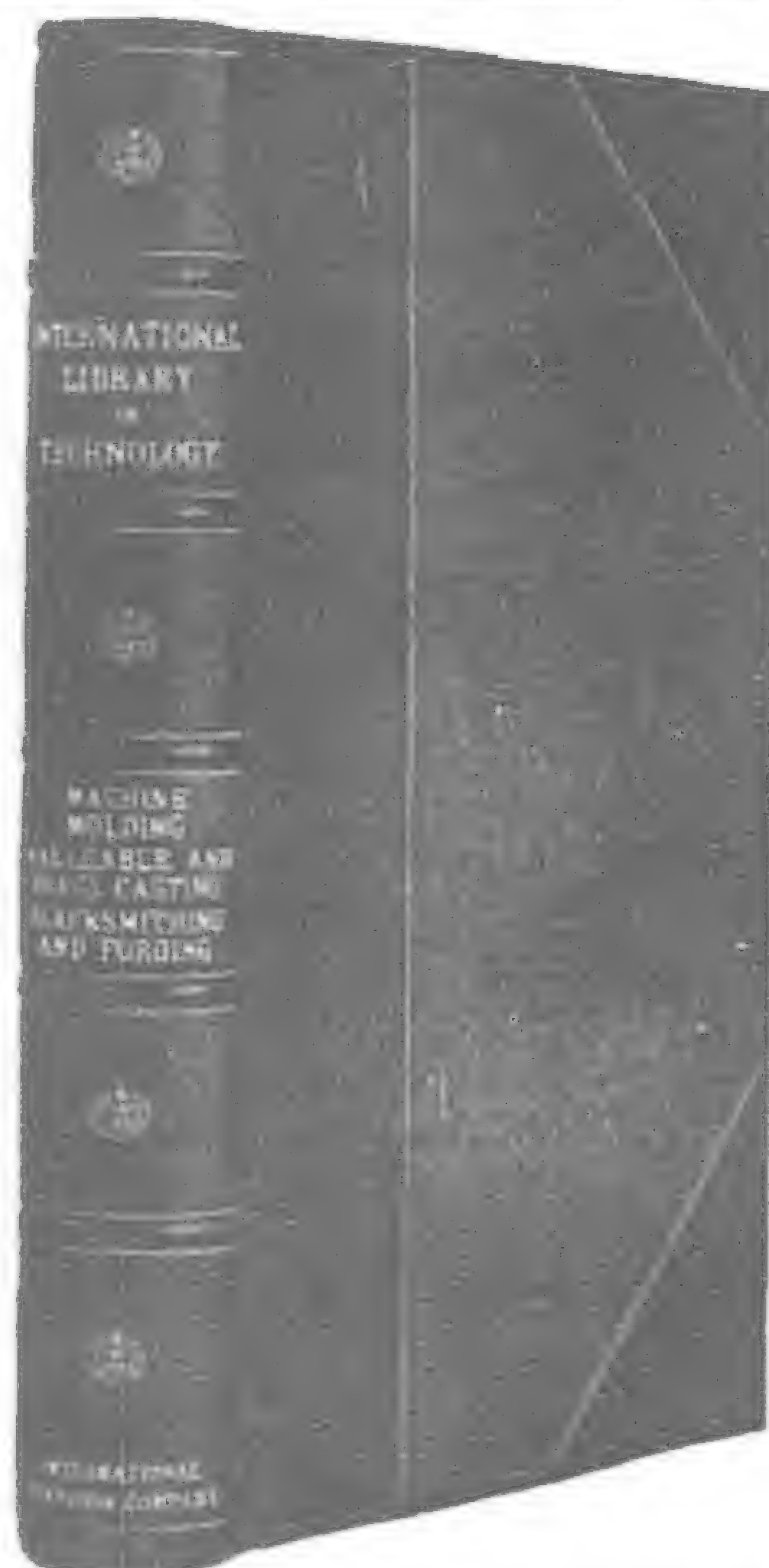
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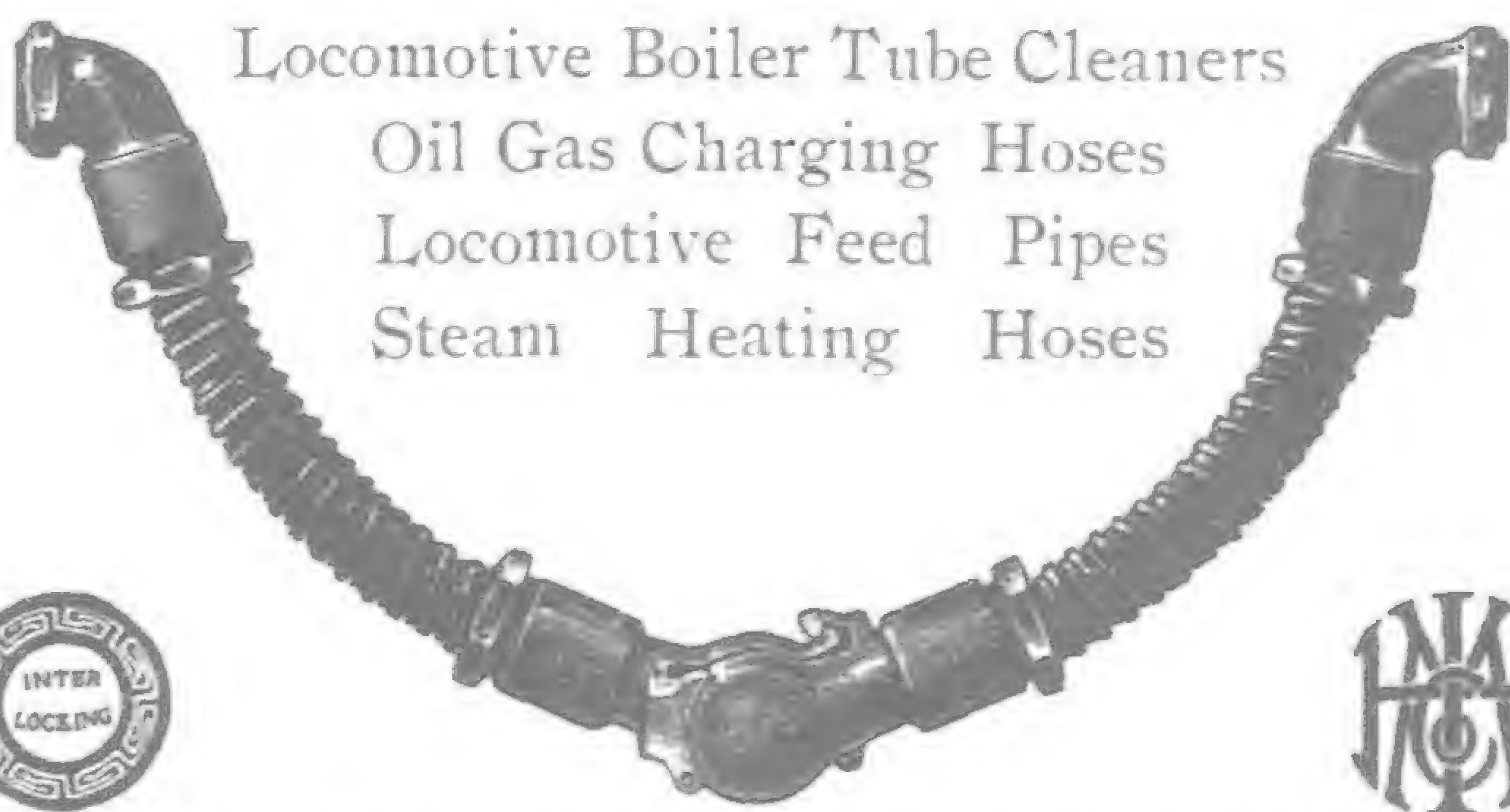
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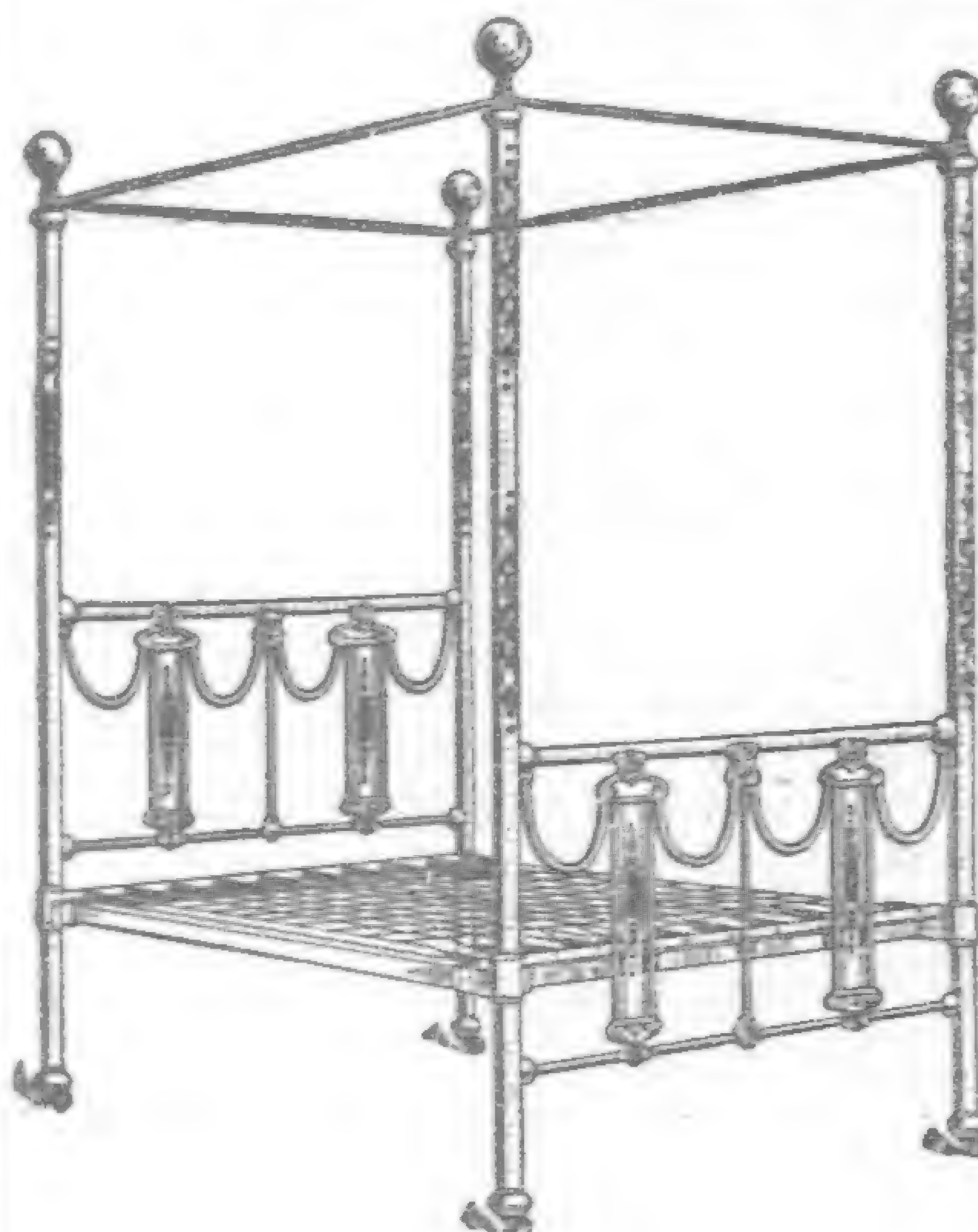
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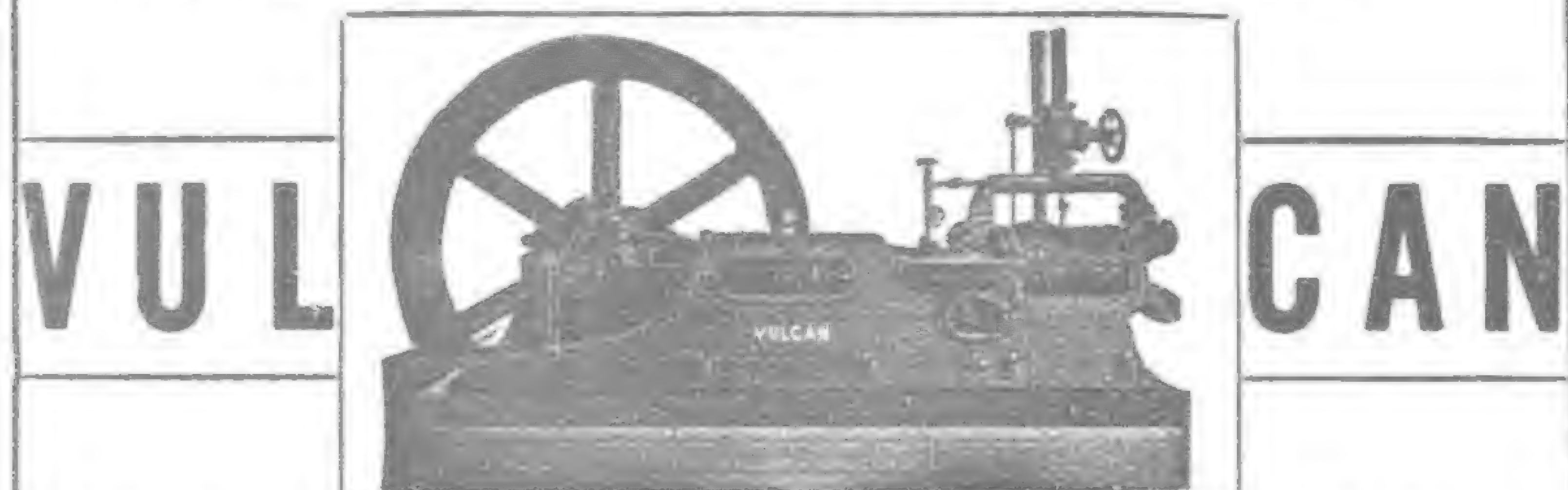
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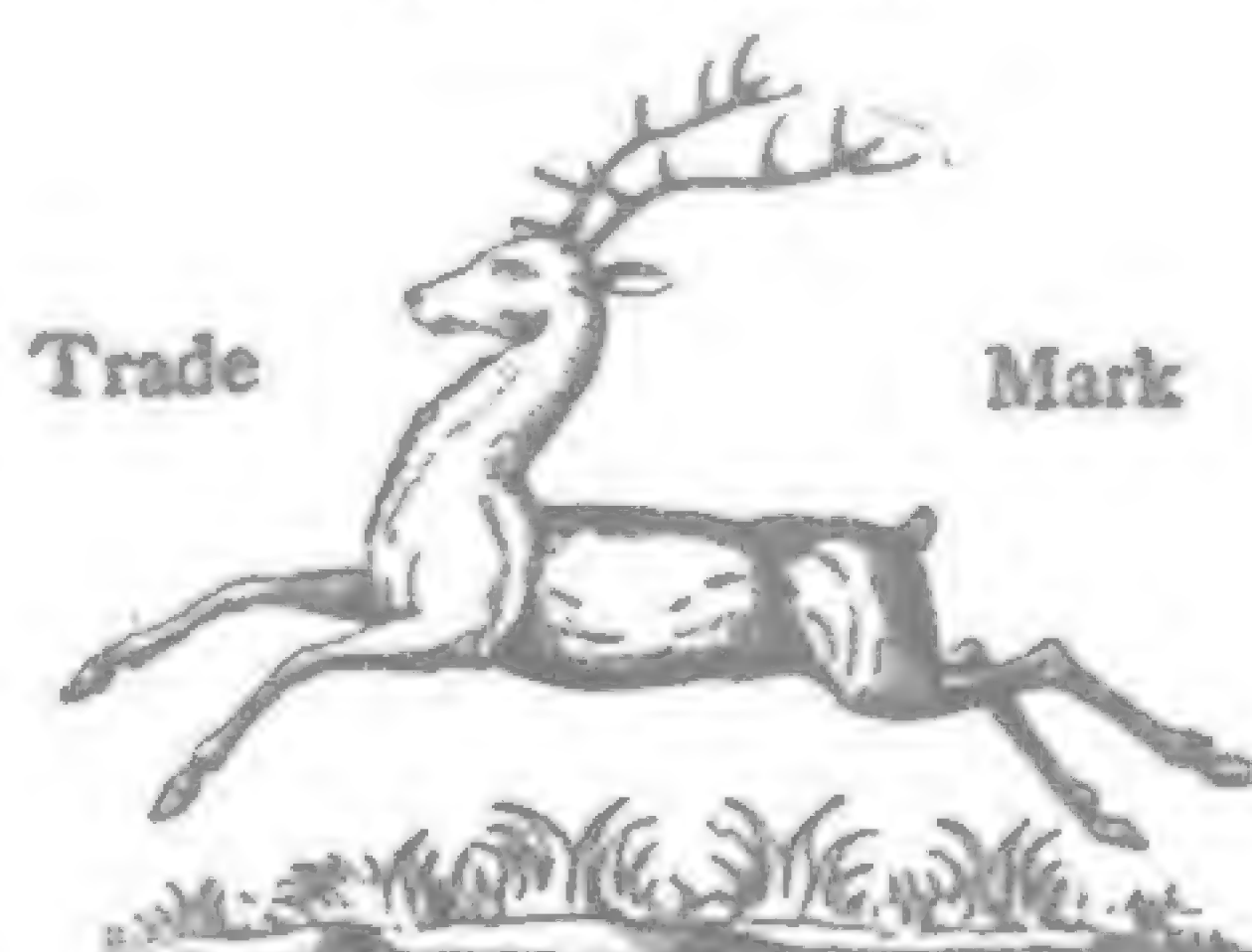
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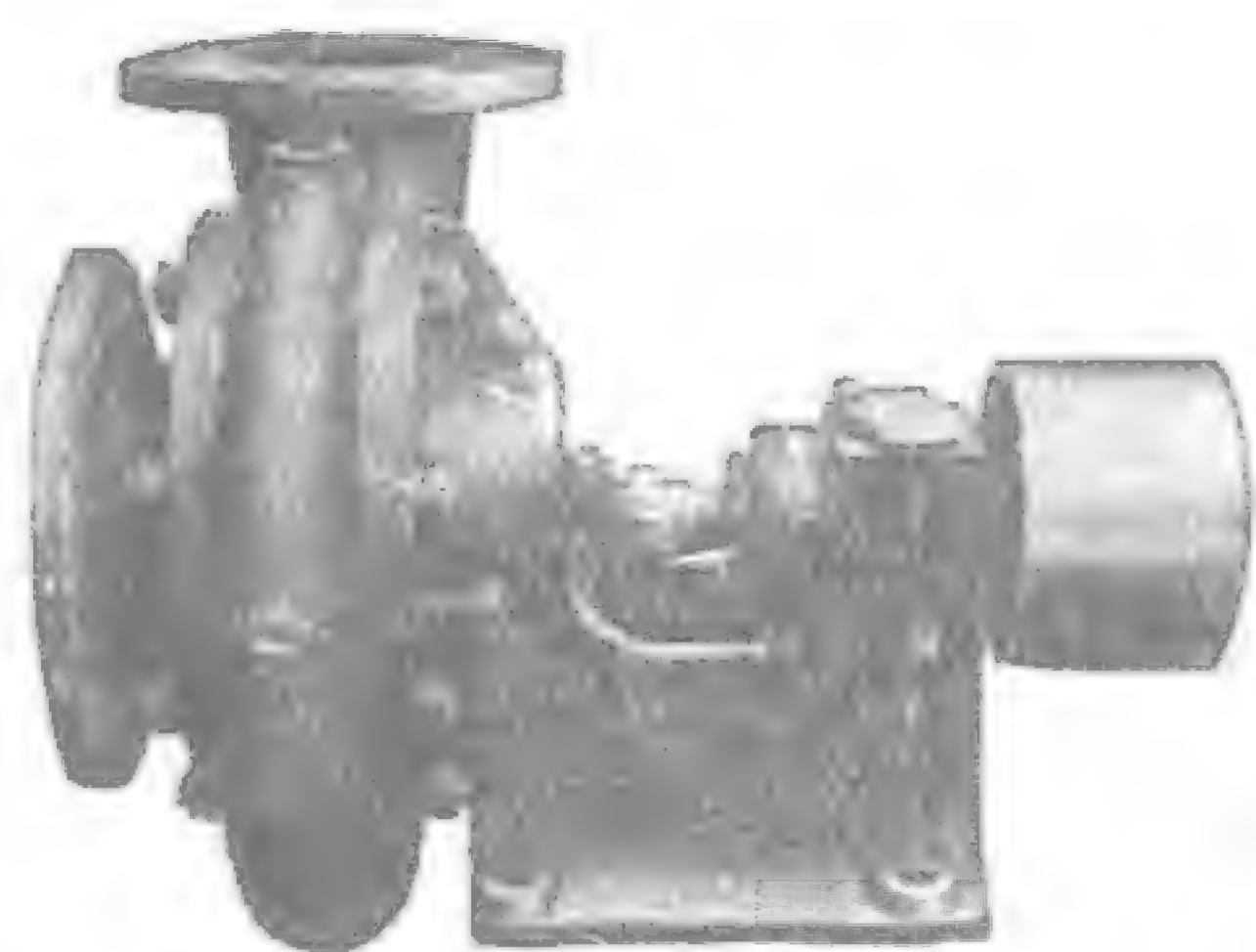
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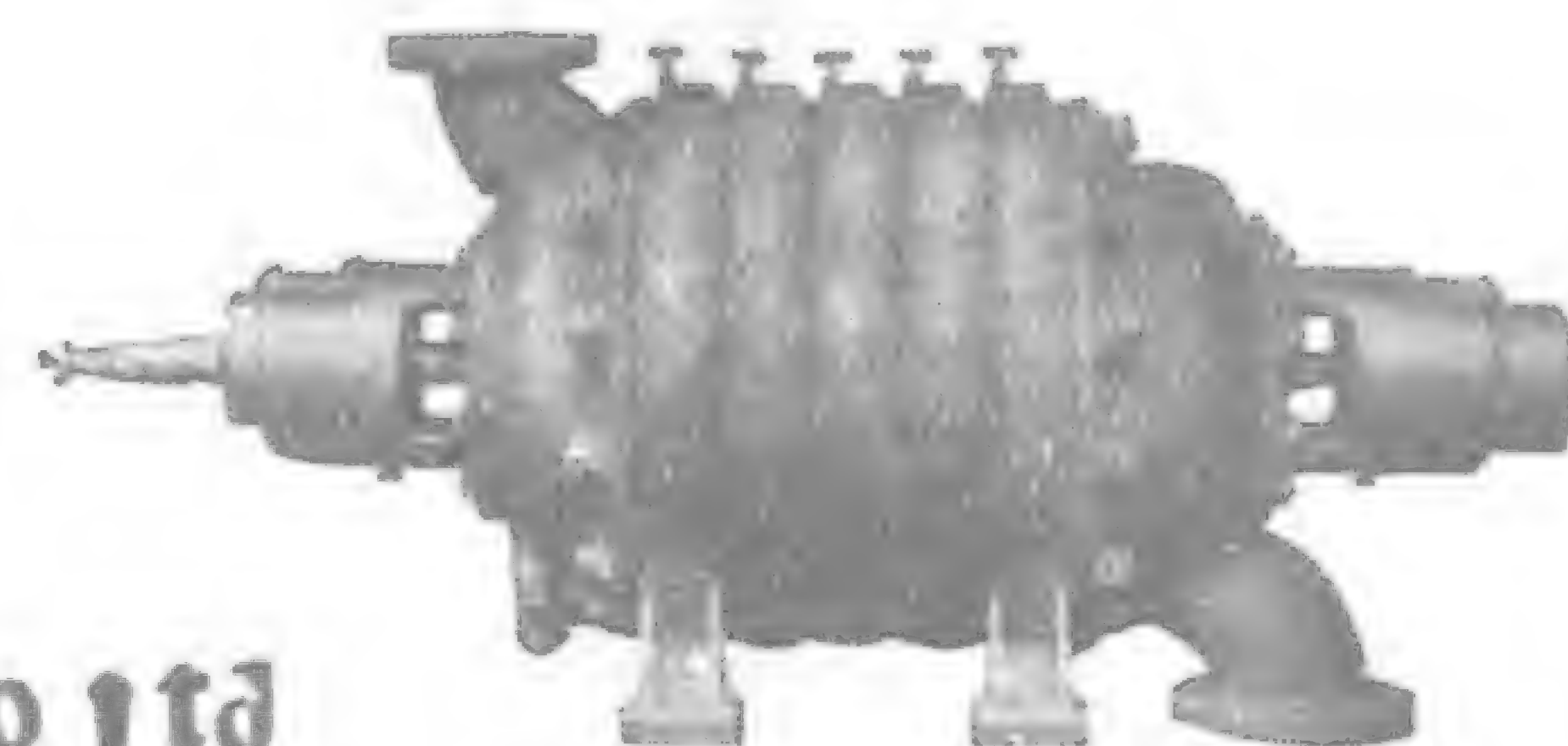
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THE FAR EASTERN REVIEW

COMMERCE :: ENGINEERING :: FINANCE

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"Most modern wars may be ultimately traced to national antipathies which have been largely created by newspaper invectives and the gross partiality of newspaper representations."
LECKY'S "England in the Eighteenth Century"

ROADS TOWARDS PEACE

AN EXPOSITION OF THE FUNDAMENTAL COMMERCIAL PROBLEMS WHICH MAKE FOR NATIONAL DISCORD AND STRIFE.

WITH SPECIAL REFERENCE TO

THE ACTIVITIES OF OFFICIAL TRADE ORGANIZATIONS IN CHINA.

THE ELIMINATION OF THE GERMAN "BLIGHT."

THE RELATION OF CHINA TO THE WAR IN EUROPE.

By Geo. Bronson Rea.

The FAR EASTERN REVIEW has endeavored to maintain an impartial attitude and observe strict neutrality in thought and deed concerning the war in Europe and the issues at question. We hold very decided opinions as to the underlying issues of the war, and our sympathies may be with one or the other of the opposing sides, but no matter how emphatic our political convictions, or sincere our friendships, we cannot permit pure sentiment to influence our editorial policy, or close our eyes to certain broad phases of the great contest.

We hold to the firm conviction that there are fundamental issues involved in this tremendous life and death struggle between the protagonists of our common civilization, that have a most important bearing on the present and future happiness and welfare of the American people, and the preservation of traditional friendships with other nations. There are vital basic principles at stake on the outcome of the war, affecting not only the future of the belligerent States, but more particularly the well-being of America and the maintenance and solidification of those common ties which unite the two great Anglo-Saxon peoples.

In obedience to the proclamation of the President of the country to which we owe allegiance, we have been silent on many matters, but these questions are so vital, so pregnant with future discord and so inimical to the preservation of harmonious intercourse and complete understanding, that we feel impelled to rise above the level of country, cast aside our shackles of

neutrality, and present our thoughts as a free and independent being. It is possible that we may be misconstrued, but our facts are such that if read in the same spirit of fairness that they are written, we cannot be misunderstood.

Between America and Britain there must always arise questions and disputes, but no matter how grave these issues, or how strained the relations may become, the time is forever past when these two nations will resort to the sword as the final arbiter of national dissensions. Blood is thicker than water, and in the final analysis, blood will tell. Mr. Bryan, the American Secretary of State, replied in response to the Japanese Ambassador last May, when the latter asked if his words were final on the California land dispute, "There can be no last word between friends." If this is the attitude America assumes towards a friend of fifty years standing, a friend of another race, another color, and opposite religious and political creeds, it proclaims loudly to the world that nothing can come between the two peoples, whose language, ideals, thoughts and blood spring from a common source. There can be no last word between friends, nor can there ever again arise any conceivable difficulty between America and Britain which cannot be solved by frank discussion and arbitration. Britain and America understand each other. The pride Americans take in their own country makes them respect that from which they sprang. Notwithstanding the great influx of immigrants from other European countries, with the

resultant intermarriage of the races, the old Anglo-Saxon element mixing with the Celt, still predominates and exerts the greatest influence in the public affairs of America. The old blood strain has been preserved in all its purity, and the only difference between the American of Anglo-Saxon descent, and his prototype in the Mother Countries is the accident of birth and the influence of environment. The spirit of the American Colonists burns as brightly to-day in their descendants as it did in the memorable years of 1776, and they can understand and appreciate to the full the motives and mind workings of the Mother race, with a full comprehension of all her subtleties and a keen perception of her defects. Americans render due tribute to her greatness. They understand and sympathize with her in the constant struggles with those tremendous political problems and industrial forces which at times, as in the case of Egypt, irresistibly sweep her forward on the path of Empire, or compel her to adopt with grim premeditation those measures for the acquisition of territory, which have colored the map of the world with bright red splashes. It is these pages of England's history, which find no admiration in the breasts of the free and liberty loving descendants of the American colonists. As the cradle of free thought, free speech, a free press, religious toleration, and all those glorious principles which emancipated the human race from the medieval yoke of tyranny, and established the rights of the individual; as the birth-place of those sturdy, God-fearing, intrepid pioneers who blazed the way for civilization and created a nation out of a boundless wilderness,—in brief, it is as the home of their Fathers that Americans respect and venerate England. Now when the national existence of the parent country is threatened, and her sons are again paying the toll of blood to defend and maintain those great fundamental principles of a free people against the onslaught of absolutism and militarism, which acknowledges no right but might, when England is paying the price for her proud imperialism, her kindred on the other shores of the Atlantic, though bound by the laws of neutrality from open aid, can only hold one sentiment, which transcends the spirit of friendship, and takes the form of a fervent prayer for her speedy victory. But with all these sentiments which compel Americans to side with Great Britain, they can also appreciate the position of Germany, and extend a heart-felt sympathy to her people, and deplore a conflict which is costing both sides so dearly.

Nothing short of a deliberate attempt to repeat the folly of 1812 which struck at the very root of American independence, could move the American people to again consider open hostilities with Great Britain. The young Republic entered into that war to preserve its hard won independence and resist the British doctrine of Right of Search by Right of Might. To-day, after a century of peace, the American people, if pushed to the wall, would as willingly go to war in defence of any attempt to revive this doctrine or any other policy which threatens their independence and unrestricted enjoyment of the fundamental rights of a free and independent people to trade and compete for their legitimate participation in the world's commerce. No

nation understands the American temperament better than the one so closely allied by the ties of blood and a common civilization, and, knowing this, it is impossible to believe that Great Britain would ever be led into any position, or resort to any act of coercion or take any unfair advantage against America, which would arouse all the latent and hereditary fighting spirit characteristic of the common race. And it is inconceivable that America would deliberately commit any breach of international law, which would justify such action.

As the fraternal ties of blood and a common civilization and tongue cement the bonds between Britain and America, so do those higher attributes of a grateful people compel the hearts of all true Americans to beat in sympathy with those who made their freedom possible, and no matter what the issue, whether they are right or whether they are wrong, when their national existence is at stake, there is only one sentiment that can find lodgment in the hearts of Americans towards their traditional friends, the fellow countrymen of the Marquis de Lafayette. In peace or in war, there is a bond of sympathy, a union of thought and a complete understanding which attract and hold together the two greatest Republics of modern times, and any force which threatens the extinction of republican France, and the subversion of those principles we have each purchased so dearly, to the doctrine of absolutism as typified by any other Power, must expect to receive the cordial disfavor of all honest and patriotic Americans. There exists amongst Americans that undying sense of gratitude, that feeling of comradeship, that union of political ideals, that no formal declaration of neutrality can stifle. Americans venerate and understand England, but their hearts are with France. Americans might hesitate before openly supporting any other country, but there would be no scruples, no doubts about their attitude where France is concerned. American sympathy will always side with France whenever she is attacked, and all the neutrality proclamations in the world cannot eradicate that sentiment.

Germany as a nation arrived on the political stage too late to overturn the natural laws of consanguinity, and although Americans have a full appreciation of her problems and can entertain a true sympathy for her people in this great crisis, it is impossible for her publicists, her statesmen, her learned professors or other apologists to adduce any reasons or arguments which can shake the faith of Americans in their fellow Republic of France, or make them overlook the timely and whole hearted co-operation which brought us into national existence. They can and do feel deeply for the German people at this time but their first duty is to obey the natural promptings of their inner hearts and respond to the appeals of those who are battling under the Tricolor to preserve their Country from the yoke of one who if victorious would ignore the rights of the many and proclaim it as "MY PROVINCE," and refer to them as "MY SUBJECTS." Germany cannot hope to influence American opinion to turn against those who were their friends, before there was a Germany, or ignore those blood ties which bind

America to Britain. It was Anglo-Saxon enterprise and indomitable will that settled the wilds of America, and created the nation, and it was the generous sympathy of France with her fleet and men that made possible its existence as an independent government, long before Germany came into being as a united country. The Germans arrived in America after the hard work of colonization was completed, and although there were still boundless tracts to be opened for settlement, the German immigrants for the greater part settled in the larger cities and towns as small shopkeepers. The serious work of battling against nature and the savage red men, in the depths of the primeval forests and boundless prairies, and bringing the land under civilization, is the crown of the Anglo-Saxon race. America owes much to her German citizens but the debt is small indeed compared to that it acknowledges to the race of its Fathers, and the people of France.

If these thoughts constitute a breach of neutrality,
then we plead guilty.

Since the commencement of the war we have clearly perceived that incidents would transpire and questions arise which would call for an exhibition of all that was highest and noblest in our national characters, in order to avoid being drawn into the vortex of the European maelstrom of death and destruction, and that controversies would be forced upon us through the interpretation of the law of the sea, by the Navies of the Allies. These issues have now unfortunately arisen, and have been faced on both sides with a spirit of fair-mindedness, and will be settled diplomatically and peaceably.

The questions now occupying the serious thought of the Governments of the United States and the Allies is merely another phase of the greater commercial issue indirectly responsible for the war itself. The political strategics of Europe embraced in the present situation are so involved that no human being can grasp all the fine points of such a stupendous subject nor is any one competent to pass an impartial opinion upon it at this time. In after years when all the facts are known and the secret archives of the Chancelleries are accessible, historians will be able to draw a true perspective and arrive at an intelligent appreciation of the present tangle of diplomatic truths, half truths and downright falsehoods. At present, all the belligerents believe that they are in the right and fighting for the highest interests of their country. As an impartial and neutral observer we can accept without hesitation the plea of justification advanced by the Allies, and can sympathize deeply with the desires of Europe to put an end to militarism as represented by Germany. We are told that Prussian militarism is a menace to the whole world, and we accept this dogma, but we also hold that militarism on land is as essential to the security and independence of the Continental States, as militarism on the sea is deemed imperative for the safety and preservation of the British Empire and the perpetuation of Britain's position as the greatest world Power. The existence of the one

compels the other. If Britain is justified in the adoption of the two to one battleship program to maintain her position, then Germany, due to her geographical position, surrounded by powerful neighbors on all sides, is also fully warranted in adopting a military policy calculated to oppose any coalition or united aggressive action by her neighbours. If Germany deemed it essential to build a strong navy for the protection of her rapidly growing mercantile marine and commerce, she merely followed the natural law of self-preservation, which every nation at some time or other must have recourse to, or be annihilated by some stronger Power. Britain's geographical position and her immense commerce and mercantile marine demand that the mastery of the sea shall be preserved to her at all costs, and if any other country should follow the same natural law of self-preservation, Britain would feel compelled to increase her fleet to maintain her predominance, and when the burden of competition became too strong for the taxpayer to keep up the strain, an issue would be found as an excuse to crush the growing rival, before he became too formidable. This also is merely the application of the law of self-preservation, and when we say Great Britain, it is because that nation holds the dominant position at this time. It would apply as well to any other country, if conditions were changed. From the facts which provoked the war, the burden of evidence is against Germany and Austria, but we desire to place ourselves on record as recognizing that Americans must hold a fellow feeling for the Germans in all that pertains to the deeper and vital commercial issues which lie at the root of the existing trouble.

We look on the present picture of carnage and desolation in Europe with feelings of genuine horror and amazement, as we feel that it was all so unnecessary and could have been avoided. We have read and re-read the Blue Books, White Books, Yellow Books and other official papers dealing with the political strategics involved, but we have sought in vain for any reference to, or admission that it existed, of the fundamental commercial issues at stake. The object of all the official publications is to lay the burden of the crime on the "other fellow" and it could all have been summed up in a few sentences.

"We have stood this thing for the last seven years
and cannot stand it any longer."

These words of the Czar, in the face of Austria's attempt to humble and pave the way for the absorption of little Serbia, and the mobilization of the Russian forces to back up his determination, forced the issue. "The shining armour" of the Kaiser failed to dazzle the Czar as it did eight years ago when Austria annexed Bosnia and Herzegovina. The Czar called the Kaiser's hand this time, and all Europe was plunged into hostilities. The discussion of these grave political events which forced the war, have temporarily diverted attention from the deeper and compelling forces whose impulses have created and intensified national hate and converted the highly cultured inhabitants of Europe into bloodthirsty and vengeful opponents, deaf to all

appeals to reason, intolerant of criticism, and apprehensive of the truth.

We have watched with deep concern the progress of the commercial battle for supremacy in the Far East during the last twelve years and have drawn our own conclusions from the events, and we consider it a journalistic obligation to express our thoughts on these underlying issues of the war, which constitute a menace to the permanent peace of the world, and a barrier to the maintenance of cordial and sympathetic relations between Great Britain and America. These conclusions have been arrived at after the most careful observation and mature study of the methods resorted to by various nationalities to secure the trade supremacy in this, the greatest potential market of the world, methods which are concealed from popular knowledge at home where a healthy public opinion and impartial press would condemn and demand their immediate discontinuance. Commercial and diplomatic practices universally discarded and impossible to employ in the centers of our Western civilization, and principles which cannot be applied in any other part of the world, without provoking immediate hostilities from an outraged nation, are brazenly advocated and enforced on a defenceless and inexperienced people, whose land has been singled out as the principal strategic theater of commercial warfare; the world's battle-ground for the supremacy of trade and the acquisition of territory. Far away in the centers of Western culture and civilization, where high principled and broad minded statesmen and apostles of peace and good-will labor to cement the bonds of friendship between the nations, the echoes of the struggle in China, with all its sordid and dishonorable details are rarely heard. Here on the ground, on the firing line of trade expansion, witnessing the intrigues and manœuvres, the skirmishes and battles, listening to the guns of hate and explosions of wrath, and the small fire of jealousy, the trained eye-witness perceives and appreciates to the full the deadly seriousness and intensity of that titanic struggle for the survival of the fittest, of which the fearful carnage on the fair fields of Europe, is but a temporary and secondary phase.

We profess that although the issues between some of the European States are purely political, relating to territorial boundaries, the main object of the larger manufacturing nations is the defense of existing markets and the conquest of new and exclusive spheres of commercial influence. Here in China we have watched with absorbing interest the workings of secret diplomacy and the machinations of national organizations for the advancement of special interests. We have observed with bewilderment the growing tendency to consider as "scraps of paper" the many solemn obligations for the preservation of China's integrity, and the repeated diplomatic assurances of the inviolability of the Open Door. We can trace step by step the various incidents and events, which have contributed once more to the closing of this Door. **For the Door is Closed again, with America on the outside "holding the bag,"** all because a high minded Executive has confided in the binding power of a piece of paper. That assertion we are prepared to prove to the hilt and maintain against

any arguments in refutation. We have witnessed the keen rivalry between the two greatest commercial antagonists for the control of this market, and we are firm in our belief, that once the German "blight" is obliterated, the campaign of abuse and calumny, the flow of invective and falsehoods will be turned against America as the next formidable competitor, until greedy and unscrupulous interests, aided by a rabid and partial press, will undermine the foundations of Anglo-American friendship and demand the industrial annihilation of America, in the same implacable spirit now demonstrated towards Germany.

We are most emphatic in our belief that the greatest possible influence for future misunderstandings between Great Britain and America will arise from some clash of interests or misinterpretation of policies in the Far East, for we have witnessed the genesis and growth of national bitterness and hate as the result of a persistent propaganda to create animosities between Germany and Great Britain, because of the commercial success of the former, and we feel assured that unless the root of the evil influence is destroyed it is only a question of time when the campaign will be turned on America. These conflicting commercial and financial interests contending for the control of new markets, and fresh opportunities for the investment of capital, make for national distrust and jealousy, while the application of national policies for the enlargement of territories or acquisition of spheres of influence, which debar other nations from the full and free enjoyment of their treaty rights, are a constant menace to the peace of the world. As America refrains from adopting similar lines of action, it is obvious that her interests must inevitably suffer, and as her people gradually awake to a full realization that their rights are being interfered with, sooner or later the country will be aroused and compel its Government to demand an explanation, or adopt retaliatory measures in other quarters.

If the war in Europe could have been avoided, we are confident that the situation in the Far East would have brought about a climax in the relations of various Powers, which could only have been peaceably and honorably overcome, by a re-declaration to the adherence of the Open Door doctrine. So far have the Powers travelled in the last few years in the endeavor to amicably solve the Far Eastern problem, that unless a return is made to the starting point, there must soon be a parting of the ways for some. Politics, finance and commerce are so closely linked together in the problem, that it is almost impossible for any one except the trained observer to distinguish between them, but it may be accepted as a cardinal fact that every political and financial move in China is inspired by the desire for commercial aggrandizement, disguised under the cloak of some administrative, industrial or railway loan.

Nearly every such financial transaction with this weak and impoverished Government provides an opportunity for the enforcement of terms which in one way or another are used as stepping stones to something else, and as a means of undermining the administrative independence of the Chinese Government. And the

pity of it is that many intelligent Chinese officials have become so inoculated with the insidious arguments of foreigners who defend these practices, that they implicitly believe the highest interests of the country are being served by advocating the perpetuation of the terms. China has seen her Customs Service taken over bodily and administered by Aliens, on the theory that the Chinese could not be trusted to direct this department to the satisfaction of the foreign bondholders; her Salt Gabelle is administered by foreigners; other loans are employed as a vehicle for the creation of new posts for foreigners; her railway loans are employed as instruments for the maintenance of organizations of foreign officials paid by the Chinese Government and nominally servants of China, but whose first allegiance is to the Corporations responsible for their employment. China has so far successfully resisted any attempt to apply the Customs precedent to her Railway Department, but if her borrowings are continued, the day will come in the not distant future when in the interests of the foreign bondholders and foreign commercial interests, her independence will be taken from her, and a Financial Commission supported by the guns of Europe and Japan will direct her affairs. This step has already been very seriously considered by the foreign Governments behind the Quintuple Group as the only solution to China's financial troubles, and had the war in Europe been delayed, and had China persevered in her efforts to raise another large administrative loan, the creation of a Debt Commission to control her finances would have been proposed as essential for the protection of her creditors. Foreign financial administration would be soon followed by foreign control of railways and other official productive enterprises, and the nation dominating the Financial Commission would reap the rewards in trade openings for its manufacturers.

The struggle for trade supremacy in China is stupendous. The very national existence of the country is at stake. We have seen Korea absorbed, Northern and Southern Manchuria parcelled off and trespassers warned away, Mongolia and Tibet alienated, Inner Mongolia threatened, and the closing in on Shantung, Fukien, the Yangtze Valley and the Southwest Provinces; all in the interests of foreign trade expansion, and every move excused and defended as being quite in accord with solemn assurances to respect China's integrity, and the rights of America to equal opportunity. The upheaval in Europe is probably all that saved China this year from the open revival of the Spheres of Influence policy. These high crimes against the life of a weak and defenseless nation groping through the tardy process of evolution from medieval darkness into the light of modern culture, are incited by the natural pressure of those tremendous financial and industrial forces seeking expansion from the constricted confines of the stronger, more advanced and over-populated manufacturing countries.

With America elbowing out of China, through the re-establishment of the Spheres of Influence, and the disappearance of her influence in financial affairs, a clear road is open for the imposition of a Debt Commission, and the ultimate monopolization of railway

and industrial enterprises by the great European lending Powers who would be represented in this control. With her financial independence gone, and the direction of all new productive enterprises concentrated in the Commission, it would be many, many years, if ever, before China could free herself from the yoke. During these decades of great industrial development, of railway construction, opening and exploitation of mines, equipment of Government arsenals, mints, and factories, the plant and material would come from those nations having the preponderance of representation and influence on the Debt Commission. Perhaps after all it would be best for the Chinese people. If we ignore the rights of the Chinese to solve their own problems in their own way, and accept the arguments of selfish interests whose sole object is to dominate the market, there is no doubt that China would be materially benefited, but on the other hand she could never escape from financial thralldom, and her days as a nation would be numbered. The contention that China would be benefited is only advanced to distract attention from the inevitable conquest of the country through the operation of the laws of modern industry and political finance. The days of territorial expansion by discovery and colonization or conquest by force of arms, has given way to the more crafty kid-gloved methods of dominating weak and improvident nations through the insidious operations of political finance. The ultimate end is the same though disguised behind hypocritical protestations of altruistic aims and professions of Christian sympathy for the poor down-trodden and tax-burdened victims of political philanthropy.

This view was undoubtedly held by President Wilson when he withdrew support from the American Financial Group and refused to become a party to any loan which threatened the administrative independence of the Chinese Government. The withdrawal of this support and the disappearance of American influence from China, has only served to strengthen the position of others who hold contrary opinions and policies, and who are not deterred by any sympathetic considerations for China from putting them into operation.

Marching behind the vanguard of national finance, are the solid forces of a united manufacturing industry, prepared to hold the commercial positions and enjoy the fruits of the financial victories. It is the pressure of this irresistible industrial force, which compels Governments and financiers to apply methods and principles in China, that no other country in the world could accept and at the same time retain its self-respect. The industrial pressure demands new markets and wots not nor cares not how they are obtained. This force is blind alike to national honor, the sanctity of agreements, the integrity of China, or anything else that stands in its way, so long as the profits from loan flotations and markets for materials are assured, and here lies the root of the world's commercial troubles. The animosities engendered by the clash of opposing industrial interests, and the recriminations and invectives of a rabid press, are at the bottom of the consuming hate brought to the surface in all its fury, in the present conflict between Great Britain and Germany. The initial political features of the war have

temporarily disappeared and the conflict has settled down to a life and death grapple between the two most formidable commercial competitors. The venomous enmity manifested by both sides is not altogether the rapid outgrowth of natural feelings engendered by the war itself, but has its genesis in the long protracted commercial rivalry and struggle for the acquisition of new markets. The individual jealousy between trading concerns, has developed into open abuse and insult indulged in by misguided patriots and misinformed newspapers.

We have closely followed the germination of Anglo-German jealousy here in the Far East where the commercial fight is the fiercest, and we hold to the belief that the greatest contributory element to its expansion into national hate and enmity, has been the uncalled-for expression of newspaper opinions, aspersions and invectives, and the misdirected energies of national organizations. The activities of the latter are to our mind directly responsible for much of the bitter feeling existing between Great Britain and Germany, and as **America is embraced in the campaign of misrepresentation and vilification we have no hesitation in expressing our frank and honest views on this subject.** As our experience covers the campaign waged on the battlefield of China, the principal theater of the world's commercial struggles, as the publisher of the only engineering and industrial journal in the field, we are in possession of facts whose accuracy cannot be disputed.

Before analyzing the activities of national industrial organizations for the advancement of their special interests in China, it will be necessary to describe briefly the industrial and engineering situation in China, prior to 1910, when the first open movement in the campaign of hatred was initiated in London.

The struggle for trade supremacy in China, may be said to have originated in the late nineties, and found expression in the creation of exclusive spheres for the advancement of special national interests. These Spheres of Influence were accurately delimited in the Non-Alienation Declarations extracted from the Chinese Government under heavy diplomatic pressure. As a corollary to these spheres, the various Powers in their determination to hold the territory for the expansion of their exclusive interests, adopted a definite programme for the construction of political railways, at China's expense. The policies of all European Powers in China, are reflected in the demands and intrigues for railway concessions to advance the trade and prosperity of the various leased ports, and adjacent territories outside the jurisdiction of the Chinese Government. The interests of China were never consulted, although she had to pay the bills.

The Manchurian lines were designed to facilitate Russia's advance eastwards to an ice free port; the Shantung concessions were avowedly a part of Germany's plan to control the province, and attract the trade of Northern China through the leased port of Tsingtau; the Peking-Hankow, Chengtai and Pienlo lines, were all a part of Franco-Russian policy working through their Belgian partner; the Yangtsze lines were designed for the purpose of building a ringed fence around the British preserve; the Canton-Kowloon railway was to

be the instrument for diverting the traffic of Southern China to Hongkong. By the insertion of a prohibitive clause in the Loan Agreement against the construction of a competitive line, and the skillful location which carried it away from the river, where China could have improved the port of Whampoa, the commercial predominance of Hongkong has been assured at the expense of Canton. The Yunnan lines and other French rights are intended to divert the trade of Southern and Southwest China, from its natural outlet at Canton, to the French port of Haiphong; the Japanese lines in Manchuria, (the Kirin-Changchun, Kirin-Hunyun, and the Inner Mongolian lines) are openly a part of the plan to prevent other nations from sharing in Japan's particular "pie;" the Japanese pretension to the Foochow-Nanchang line is another manifestation of their policy to dominate Fukien, and find an outlet to their anticipated sphere in Kiangsi; the British section of the Canton-Hankow line is another indication of their determination to control the trade routes converging on Hongkong; in fact every railway concession has its special political significance, and always for the advancement of foreign interests rather than those of the country who pays the bill. The only foreign railway loans or contracts in China devoid of political significance are the Peking-Mukden loan, the Tao-Ching purchase, and the recent contract for the Shasi-Shingifu line. The Hukuang lines were partially freed from political tendencies by internationalization, but the influence of special interests is conspicuous in the distribution or control of the sections. In fact, it may be accepted, that the internationalization of the finances, is a mere farce, and present tendencies indicate that the southern section of the line will be exclusively British. Perhaps the same rule will have to be applied to the other sections, as the only means to secure an equitable expression of the Loan Agreement. Notwithstanding the Open Door Declarations, the battle for railway concessions in China has been marked by a tenacious determination on the part of the Powers to control certain areas, as preferential commercial spheres to provide an outlet for their respective manufacturing industries.

All the Powers arbitrarily designated certain approved financial Groups or Corporations as the official instruments to execute the railway contracts so obtained, and then protected these favored few from the competition of other interests. A monopoly was thereby created, which assured the imposition and perpetuation of certain loan terms on the Chinese Government, calculated to ultimately undermine its administrative independence. Had unrestricted competition been permitted, other reputable and experienced construction corporations could have entered the field, enabling China to free herself from these terms, and prevent the concentration of national influence in any one corporation who in a given crisis might assume a dominant voice in her political affairs. The enforcement of such a monopoly, can only be interpreted in one way, and that points strongly to the suspicion that the favored corporations enjoying the full confidence and support of their respective Governments were to be used as the instruments for the advancement of special political

designs. This concealed crime against the life of an inexperienced nation can never be justified by any arguments. China was entitled to the benefit of competition. It was refused her. The deduction is obvious and points to some ulterior motive, otherwise the foreign Governments stand pilloried as being in collusion with favored interests, and opposing the legitimate right of their other nationals to participate in the development of China.

The British Government for instance would find it extremely difficult to explain to the British public, why in face of repeated protests it sanctioned and maintained a monopoly of the Chinese railway business for sixteen years in favor of one commercial organization, without condemning itself before its own people or acknowledging a devious policy towards China. It is useless and unsatisfactory to explain that British railway development in China, could solely be confided to and safeguarded by one commercial corporation and that the world renowned and experienced British construction firms, the Builders of the Empire, could not be trusted to do business with China. The only possible political justification for such illegal discrimination would lie in the fact that the nature of British policy in China was such, that the entrance of others in the field would jeopardize its success, and therefore they could not be permitted to participate. This deduction would in turn imply that British policy in China cannot bear the search light of public scrutiny and criticism. As we are content to believe that such an insinuation against the motives of the British Government is baseless, there remains only one other construction to account for the monopoly, one which absolves the Government, but implicates some individual. If the Government is exonerated from the onus of maintaining a secret monopoly which to our exact knowledge has caused enormous losses to unsuspecting competitors, then the blame falls on some official of the Government, who for specific reasons of his own has upheld the monopoly in defiance of all British ideas of equality. The question naturally arises, who is the official in the British Foreign Office who has had the temerity and political influence to close the door in China to all others than the favored combination? We know of many British firms who have expended large sums to secure a legitimate share of this business, but have been compelled to retire from the field on account of this unfair monopoly upheld by all the strength of the Foreign Office and the Legation at Peking. It is necessary for us to emphasize the existence and the effects of this monopoly for the financing and construction of railways in China, not from any special bias; but because of its far reaching influence on other questions calculated to strain friendly relations between Great Britain and other countries, and as the underlying fact which has been overlooked in the campaign of newspaper invective against Germany and America.

In France and Germany, the official groups were representative of the financial interests of the country, and distributed the orders for materials amongst their allied manufacturers. There was never any great protest made against the maintenance of these

monopolies. In America, the official group was composed of the four greatest firms controlling the finances of the country, and although it was recognized that the monopoly accorded the Group was un-American, and opposed to the legitimate rights of others, there were certain financial and other conditions, which temporarily justified their sole enjoyment of official support. These conditions have ceased to exist.

The operation of the British monopoly in China, concentrated the purchasing of all railway material in the hands of one commercial firm, at a stipulated commission. This commercial firm for some time acted in a dual capacity as the representative of a select combination of British manufacturers, and as purchasing agents of the railways. The era of railway construction in China, induced many British manufacturers unfamiliar with the precise situation, to compete for the supply of materials by either sending their own representatives to China, or confiding their interests to some local firm. As long, however, as the official purchasing agents competed for the business in their capacity as an independent firm, it is obvious that they held a decided advantage over all others. In fact, they controlled the business, not only as purchasing agents, but as one of the principals of the official corporation, who engaged the services of the construction engineers, on whose approval tenders were awarded by the Chinese Directors-General. An analysis of the facts clearly indicates how absolutely impossible it could be made for any outside British firm to break through the ring and successfully compete for the supply of railway materials if the purchasing agents desired to freeze them out. The official organization having the exclusive support of the British Government, is a combination of the greatest British financial institution and the leading British commercial firm in China. The British loan agreements all specify that the purchase of materials for the equipment of the lines, shall be carried out by the official corporation at a stipulated commission. This purchasing power is then delegated by the Corporation to the commercial firm. The official Corporation nominates the Engineer-in-Chief. With an Engineer-in-Chief and technical staff indirectly owing their appointment to the commercial organization, who acted as purchasing agents of the railway, and as the selling agents of certain manufacturers, the tendency of the engineer, in loyalty to his real employers, would be to draft his specifications for materials so that only the firms represented by the purchasing agents would be able to secure the business. As the Engineer-in-Chief had the power to accept or reject tenders, the way was open for the operation of a system which no competitor could hope to beat. The principle of the scheme was all wrong, as business could be so manipulated if desired to preserve a monopoly for one clique of manufacturers.

Many manufacturers sent their own representatives or established agencies with other firms in Shanghai, and to the uninitiated there was every indication of a boom in machinery and railway supplies. There was a boom, but the British manufacturers were the gullible ones whose money paid for the upkeep and salaries of the independent engineering firms in

Shanghai. Business was here, but they failed to get it. Slowly it dawned on these firms that they were "up against it" and were being discriminated against by the practical working of the policy of their own Government, but with characteristic British reticence they held their tongues and said little. They found that the strength of the monopoly was so great in China, that they could not afford to openly incur its enmity. British newspapers in China, accepting the advertising support of these firms, were also apparently unwilling to publish a word in opposition to the official policy. If any British editor in China has ever honestly raised his voice in denunciation of this monopoly, we do not recall it. On the other hand we have noted a studied indifference to refer to its existence except to defend and apologize for it as essential to the success of British policy.

The independent firms representing many of the largest British manufacturers at home, entitled to equal rights to compete for materials in a purely British railway concession, finally drafted a protest against the existence and working of the monopoly, for presentation to the British Minister at Peking. We have before us as we write, a copy of this protest, dated Shanghai, 23rd of May, 1910, addressed to W. G. Max Muller, Esq., M.V.O., H.B.M.'s Charge d'Affaires, Peking. It is therefore on record that a protest was made, and signed by several reputable British firms in China, representing some of the largest manufacturers at home. It is also apparent that little was ever done to apply a remedy.

Not only were the manufacturers and their agents refused justice by the Foreign Office, but the monopoly was made to extend to the great construction firms, such as Messrs. Pearson & Sons, Pauling & Co., and other firms with a world wide reputation as successful railway and Empire builders. We have exact knowledge that one of these firms has expended a large fortune in its endeavours to exercise its rights to do business in China, and the other has also maintained high salaried representatives and offices in China for a number of years in the hope of securing railway contracts. Other firms also have felt the full effect of the monopoly. It may be said without exaggeration, that up to date, the profits accruing to the official organization from the equipment of railways in China, is almost fully offset by the cash out of pocket losses incurred by independent construction firms and manufacturers who have unsuccessfully tried to obtain business. The British Government or whoever is responsible has simply extracted money from many pockets and diverted it to the coffers of one concern; a sort of legalized highway robbery without any hope of redress on the part of the victims.

The exact situation, however, was never fully understood by the manufacturers at home, and a loyal British press resolutely stood by the Foreign Office and preserved a mute silence concerning this high handed interference with the expansion of British trade by free competition. The manufacturers who failed to secure orders, never sought for the reasons at home, nor do they fully realize to this day, all that the working of the monopoly meant to

them. They could see German trade expanding steadily in China, without any particular good reason, and they naturally jumped to the conclusion that German and American competition was the cause of their own failure. They were losing out, but did not know why. The Special Commissioner of "The Engineer" writing to that journal from Shanghai, under date of August 22nd, 1913, fully explained the situation, in a guarded and conservative manner, corroborating the viewpoint we have always held in these columns.

In addition to the working of the monopoly, there were other excellent reasons why British engineering trade in China failed to keep abreast of their German competitors. We confine our comparison for the present to the Germans, as American competition had never been a serious one, despite the allegations of those who have coupled the two together as the reason for British failure. THE FAR EASTERN REVIEW is entitled to speak with authority on these matters, as for over ten years we have maintained confidential and friendly relations with nearly every engineering concern in Shanghai, irrespective of nationality. We have watched the growth of every engineering and machinery firm in Shanghai, and know whereof we speak. For many years the best equipped engineering firms in China, were undoubtedly the Germans. They had well organized staffs of engineering specialists and salesmen, who systematically covered the country. By patience, application to business and a careful study of the requirements of the field, they built up a profitable trade.

"The painstaking persistence of the German firms and their readiness to meet the wants of customers brought their just reward. By untiring perseverance, adaptability and willingness to run considerable commercial risks," Germany built up a large engineering business in China in the last decade, while the British manufacturers were still undecided about the importance of the market, and refused to appropriate funds for advertising and propaganda work. Our own experience tells us that the German engineering firms were liberal advertisers in engineering journals, while the more conservative British either refrained altogether or preferred to expend their technical advertising appropriations in general circulating mediums. The Germans specialized, studied the field, sent out experts, made friends with the Chinese, quoted low prices and favorable terms, and *advertised*, and then slowly but surely reaped their reward. We have read with surprise the abuse and criticism in the British press, about the immorality of German business methods in China, that their Diplomatic and Consular officials used their influence to secure contracts, that unusually long credits were given, in other words, that their methods were a "blight," and, as British manufacturers could not or would not modify their conservative ideas to meet changed conditions, and because British diplomatic officials were above using their influence for commercial ends, therefore the "disreputable" German competition must be exterminated at any cost. We have read so much in the last few months about German methods in China, that we marvel that these alleged transactions were not

condemned years ago. We have been on intimate terms with almost all the engineering firms in China for ten years, and have also a wide acquaintance amongst the high Chinese officials who have the placing of engineering orders, yet we have never heard any distinction drawn between the methods of any foreigners in China by those most directly interested. As far as Chinese Government contracts are concerned, there is no distinguishable difference between the methods of Germany and any other country. To our mind they are all more or less open to criticism, and there is little profit to be gained in splitting hairs about differences in business ethics. If Germany has bribed Chinese officials to secure business, if the German Minister has demanded contracts for his nationals, and used pressure to enforce acquiescence, well, who has the right to complain? "Let him who is not guilty cast the first stone." And we desire to emphasize the fact, that the last ones who are entitled to pose as judges of German tactics, are our British friends, for we can cite as many cases where devious methods have been employed by British firms, as can be adduced against the Germans. The German Government forced China to concede the rights to the Shantung railways and mines, and the northern section of the Tsinpu Railway. Did Britain obtain her railway concessions as a free and generous gift from the Chinese Government?

If German business methods with the Chinese Government are so repugnant to British morality, it would open their eyes if we probe too deeply into some of the British deals which have all the hall marks of respectability and honesty. It must not be overlooked that for years the British and German official financial institutions in China, operated hand-in-hand, and even after the severance of official ties, a strong German element sat on the Directorate of the British institution even to the outbreak of hostilities. It is rather late in the day for British writers to blacken the business reputation of the Germans, for a close study of facts will disclose that their own trusted champions are tarred with the same stick. The hullabaloo about the gross immorality of German methods in China may sound patriotic enough to uninformed people in England, whose hatred is being fired by this sort of rubbish, but to those conversant with events in China for the last decade, it has the ring of hypocrisy and the stamp of insincerity. If Germany has been dishonorable in her dealings with the Chinese Government, then so have the British, the French, Belgians, Russians and at times the Americans and last but not least the Japanese. If Germany's commercial propaganda to advance her interests in China is open to severe condemnation, because of displacing British trade, what is the verdict of the hyper-sensitive British critic on the tactics of their well-beloved Ally? The Maritime Customs Trade Reports will indicate, and every honest British trader in China will corroborate, that the most formidable competition he has to contend against is not that of Germany, or even America, but the well organized and officially subsidized trade propaganda of Japan. Has Germany adopted the same methods in Shantung as Japan did in Manchuria?

Then why, with all the facts clearly before the world, does the British press vent their spleen on Germany alone, whose success is due in part to methods that all others are at liberty to adopt in competition.

Because independent British manufacturers were negligent in protecting their own interests at home, and meekly submitted to the establishment and maintenance of a monopoly for a favored few, and so failed to secure business, it is no reason why the Germans should now shoulder the blame. The fault lies solely with their own Government, who deliberately closed the door of equal opportunity in their face. If the British manufacturer is now fired to the point of purifying foreign trade, in his blind rage against Germany, let him stop and calmly reason with himself, and look the facts squarely in the face, and then clean out his own Augean stables before attempting to regenerate Germany and her alleged fellow culprit, America.

The writers who howl the most about German success in China, are ignorant of the fact that for several years, there were only a few British engineering firms on the ground, and these were outclassed in every point by their German competitors. Even to this day, despite the establishment of several highly capable British engineering combinations, it is still true that the engineering department of at least one German firm is the best equipped in the field. Is it any wonder that leading British and American engineering manufacturers entrusted their interests in China to Germans rather than to firms of their own nationality? The manufacturer is only concerned about orders, and will not be bound by any silly patriotic notion of tying himself to agents of his own nationality, if there are others who are better qualified to secure the business. We have some very valuable information in our possession about the efficiency of the various engineering agencies in China, and with all due recognition of the capability, enterprise and integrity of British engineers, we do not believe that any of them in China will withhold due credit from the leading German engineering concerns who have pioneered the field.

We have seen one of the largest German electrical manufacturers develop a business in China during the last eight years, from a tiny one room office on a side street, with one engineer employee, to its present enviable position where fifteen rooms cannot accommodate its Shanghai staff. It now has its own branches with resident engineers in all the principal ports, and secures a large share of the electrical business. We can personally testify to the fact that the one solitary engineer who came to Shanghai, over eight years ago, worked night and day, accepted any old contract, even unto wiring a house, and sold supplies in small orders; anything to make expenses. He was always on the job. He had no traditional social laws to determine who he should or should not associate with, nor did he make a fetish of sport. He advertised. He prospered. In a year an assistant was sent out; later on others arrived, and thus year by year by strict application to their own specialty, they built up perhaps the largest electrical business in China.

Other engineers criticise some of the original installations as being of poor quality, inefficient, and

all the other stock trade reflections on a competitor's work. Perhaps some of the criticisms are justified, but, on the other hand, the German engineer studied his customer, found out just how much he had to spend, and then sold him a plant for that amount of money. The installations might have been better, but would have cost more. This is business, despite all the arguments disgruntled competitors can advance to the contrary. We have yet to find the high minded machinery agent who will refuse to sell a customer a machine at the price he can afford to pay. There are many other examples of German application that have won out in China, and we could fill several pages about their methods that have come under our own observation.

As long ago as 1906, a very spirited journalistic controversy occurred in some of the leading London papers about the methods of British agents of British manufacturers in China, and some very severe strictures were passed on their slackness. Letters were quoted by "Commercial Intelligence" (Jan. 24, 1906) from important British firms, stating that their interests had been so hopelessly mismanaged that they had been compelled to cancel the agencies and transfer them to German firms. The same paper stated that it had ample evidence that British firms were dissatisfied with their British representation in the Far East, and that agencies were being cancelled and fresh arrangements made with firms who were not British. We felt at the time, that the fault was unjustly shouldered on to the China representatives, for we were convinced that in the majority of cases, the manufacturers were equally to blame by failing to make proper financial allowances for advertising and travelling expenses, and in expecting immediate returns from this highly competitive field. We refer to the above facts as an indication and proof that British manufacturers were quite willing at that time to condemn the methods of their own representatives and extol the virtues of the now loudly denounced Germans. So between the working of the official monopoly, and the inexperience of both manufacturers and their representatives, the British engineering manufacturers received few orders from China, and what they did receive, in many instances came through the enterprise of their German agents or, in other cases, through orders placed by German firms with British agents in China.

In another vitally important phase of the situation, the existence of the British financial monopoly acted as an insurmountable barrier to the expansion of independent British engineering trade, especially in the equipment of government plants and those belonging to semi-official industrial companies. This business naturally gravitated to the large German concerns in China, as they exerted special efforts to keep constantly in touch with the Chinese, and, when the time was ripe, they were ready with financial arrangements and terms acceptable to the Chinese officials. Many of these transactions took the form of a loan agreement to furnish the funds for the purchase of the plant, with stipulations that so much should be expended in materials and supplies. In some instances perhaps the amount of the loan was much higher than

the value of the plant, and the surplus was expended by the authorities without any questions or restrictions. As long as the security is ample, no merchant or independent bank will lose good business by insisting on dictating terms as to the expenditure of the excess funds.

The British government in its altruistic policy to save China from herself, and by refusing to admit that her officials could be entrusted to honestly handle loan funds, so as to preserve the field for its pet monopoly, has always frowned down any tendency towards the establishment of loan terms that would release China from the severe restrictions as to supervision of expenditures. The Germans, on the other hand, seeing that the harsh attitude of Britain and the official organization was distasteful to China, and a barrier to the successful prosecution of business and establishment of cordial relations, broke away from the leading strings of Great Britain and demonstrated their faith in the honesty of the Chinese, by conceding them a greater freedom in the expenditure of the funds. The signing of the "Pukow" terms was a severe blow to British policy, and has always been resented as a German trick to curry favor with the Chinese. It was this faith and trust in their integrity, and the disposition to set aside terms obnoxious to Chinese pride and inimical to China's administrative independence, that enabled Germany to secure their confidence. To the apologists for British policy, any relaxation in loan terms, which might indicate that China was competent and honest enough to handle and expend loan funds, and thus hasten the day of her release from foreign financial supervision, the German demonstration of trust in China's credit and good faith, is denounced as a scurvy German trick. But if this matter is closely analyzed, it is clearly seen that as long as Britain demands certain terms considered by her as indispensable for the proper safeguarding of the funds, and then refuses to admit any competition, China can never escape from these terms so humiliating to her pride, and so fraught with danger to her independence. Other equally patriotic British firms might have entertained different ideas as to the terms they would be willing to concede to a Government whose bonds were at that time quoted at par, but they were barred out of the field. The British Government in conceding the full strength of its support to its official financial institution has endeavoured to establish certain conditions under which China shall be permitted to conduct business, and is apparently determined that not only its own people but all the rest of the world shall bow to her dictates on this matter. If the independent bankers of Germany, America, France or other countries hold different views about China's honesty and ability to pay her debts, and are willing to concede more favorable terms as a basis on which to secure business, we do not see how it can be construed otherwise than strictly legitimate. If other competitors have full knowledge of and are satisfied that Chinese officials bitterly resent the attitude of Great Britain, (and this statement is true, despite all assurances to the contrary) and that their only hope to successfully compete is by offering terms more in accord with Chinese pride, can they be accused of trickiness or

unscrupulousness if they fail to see eye to eye with Britain? The British Government cannot expect all the rest of the world to acquiesce in the wisdom of its policy, especially when it operates for the benefit of one particular corporation. It savors too much of a set scheme for the ultimate ascendancy of this organization in the control of China's financial affairs.

With all other British financial institutions barred from accepting Chinese loans, how could their engineering firms in China, hope to finance contracts for the equipment of large Government arsenals and industrial plants? There was only one important British engineering firm in China with sufficient financial strength to successfully undertake such large contracts, and that was the partner of the Bank in railway construction. The only other British bank operating in China, confined itself to a strictly commercial business. So it is again evident that even if the Chinese were disposed to equip these plants with British machinery, about the only concern in China who could successfully finance the order without assistance from the official Bank, was the other partner in the monopoly.

The Chinese know exactly what terms would be demanded if they approached a British firm to undertake any large government contract that implied the signing of a loan agreement. They therefore acted true to human nature the world over, and did what any other sensible person would do under like circumstances. They approached those who were not chained down by the strict provisions of the official monopoly, and who could readily obtain financial support from the official German Banks in China or from other institutions at Home. Thus it was that the leading German firms were enabled to capture a profitable business, that might have gone to British manufacturers, if it had not been for the solicitude of the British Government to protect the Chinese from their own shortcomings, ostensibly for the protection of British bondholders in general, but in its effect for the perpetuation of a monopoly to its official institution. The British agents of engineering manufacturers in China bereft of proper banking facilities, and with little or no financial support from the manufacturers, were limited to a circumscribed sphere of activity in the immediate vicinity of their offices in Shanghai, and could not afford to get out and cover the vast country in a proper way. On the other hand, the great German firms could readily obtain all the financial assistance necessary from their banks on their own indorsement. This enabled them to negotiate with the Chinese for any small industrial loan for the purchase of plant and machinery. This circuitous method of raising funds is naturally more expensive than a direct Government transaction with the official banks where the national credit is pledged as security. But the Chinese were willing to pay the higher rate of interest and accept those exceptional terms which must always rule where the risks are so great as in a provincial or municipal loan in China which lacks the Central Government guarantee.

In their rigid adherence to certain principles the foreign Governments and the official institutions have viewed with marked disfavor any direct

provincial or municipal loan in China, whereby independent financiers might break through the ringed fence of monopoly and create terms opposed to their ideas of financial supervision. Only by a strong centralized government having absolute control over the credit of provinces and cities, can the monopoly be upheld and the "indispensable" terms perpetuated. And to this tendency to maintain at all hazards the centralization of power at Peking, for the facilitation of forging the financial chains on China's independence, is traceable the gradual disappearance of those republican principles created by the overthrow of the Manchus, and the recrudescence of those despotic methods having for their ultimate purpose the recreation of an autocracy. And the unsuspecting, trusting and inexperienced officials at Peking, attracted by the lure of gold, are enmeshed and vainly struggling in the web of political finance, pending the hour of their certain doom.

The price will be dearly paid by China for the mistakes of the last few years, and we repeat again, had it not been for the war in Europe, and had China persisted in borrowing another large administrative loan, her financial independence would have gone the way of her leased ports and the Maritime Customs. It would all have been done so correctly, so sympathetically and in such strict conformance with the customary rules of the game that the world would have looked on and cordially approved of the generous and altruistic motives advanced by the most exalted and most Christian Powers leagued with Japan, to cover up their schemes of expansion. The inexorable laws of modern political finance and the tremendous pressure of expanding industrial enterprise, and the lust for Empire, applied to a weak and defenseless nation like China, can have only one result.

It will be readily perceived that during all the years that the British financial monopoly was rigidly enforced, and provincial and municipal loans banned as contrary to the spirit of that monopoly, it was absolutely impossible for British firms to compete for the equipment of Chinese Government enterprises controlled by the Provincial Viceroys and Governors. As the German firms were in a position to obtain the necessary financial backing to negotiate these small loans, they secured the business. As to the ethics involved in these special transactions, all we have to say is that if British firms had been accorded the same facilities by their Government and had participated to any extent in the rich profits from this class of business, the world would have heard very little about the immorality of German methods. For we assert that there is no perceptible difference in the commercial ethics of British traders and those of other nationalities as applied to China, and they cannot be accused of refusing to make profits, from any altruistic conception of the inexperience of the customer, or from any adherence to an inflexible code of loan ethics advocated by their Government. They failed to get all the Chinese provincial engineering business. The Germans succeeded, that is all there is to it, and it devolves upon the British traducers of German and American methods, to stop throwing mud, and indulging in recriminations,

and instead firmly demand an explanation from their own Government why they were excluded from the field.

Having fully described the reasons for the creation of the monopoly, with logical and honest deductions as to its ultimate ends, and its effect on the independent British financiers, constructors, manufacturers and their representatives in China, it is only fair to state that the British Government has recently been moved to modify its fixed policy of sixteen years' standing, and is now disposed to permit a freer competition in the hitherto closed preserve of Chinese finance and railway construction. The stirring of its conscience however came too late to undo the damage, and check the growth of bitter feelings engendered between England and Germany. The fact that it did exist for so long gave rise to certain erroneous impressions amongst the uninformed in England, and provided the excuse for the virulent campaign of abuse and misrepresentation directed against Germany and America, which in turn is largely responsible for the present exhibition of savage hate between the two principal antagonists of the great struggle.

It is possible that we may err in some of our deductions. We sincerely hope that we are wrong. But that our facts are accurate, and our conclusions are logical and honest, are beyond dispute, and cannot be challenged. We hold no rancor, nor are we inspired by any motive other than one to have the truth laid bare, so Americans and Britons will have their eyes fully opened and take the necessary precautions in time to avert the inevitable rupture in friendly relations if the campaign we are about to expose is not squashed with a firm hand.

While the monopoly was in full force, and British manufacturers were wondering why they failed to secure a foothold in China, a little monthly engineering trade journal was launched in London for the purpose of furthering British engineering interests in China. Out of this small and insignificant beginning has developed the campaign which now demands the total annihilation of the German people with a vindictiveness and ferocity which harks us back to the Dark Ages. Appealing to the British manufacturer's intense patriotism, and representing German methods and American competition as the reason for the failure of British engineers in China, and presenting other plausible and misleading arguments, this archetype of greed and unscrupulousness secured a sympathetic audience amongst dissatisfied and uninformed manufacturers. They listened to his misrepresentations and mistook his activities for true patriotism. He urged upon them the necessity of co-operation and when success was assured and the organization effected, he was rewarded by being appointed to the position of its Secretary. The story of his patriotic activities from that date can be read between the lines of the official and confidential circulars of the association, and the monthly paper whose policy he inspires, but the story of the damage he has done to British prestige, of the

undying hate he generated in the breasts of friendly German merchants, and the resentment against Great Britain by her French friends, and the loss of respect amongst Americans can only be ascertained and appreciated by a careful analysis of his work as herewith presented. With his promotion to the Secretaryship of this Association, commenced that extraordinary outpouring of pseudo righteous British indignation against the German "blight." To add insult to injury, the British Government itself was misled into officially recognizing and approving of this undignified campaign. From that date every German became honestly convinced that a determined attack was to be made on their trade, and their commerce in China annihilated, under a well directed movement officially approved of by the British Government. For the last two years the flow of misrepresentation and abuse has poured steadily from the columns of the paper whose policy faithfully reflects the thoughts of the Secretary of the British official organization, until the mere sight of, or very mention of its name to the Germans is like waving a red flag before a bull.

Huinan nature is the same the world over, and if similar abuse and insult had been heaped on Americans, with the indirect approval of the British Government, all the ties of blood or a common civilization could never have stifled the howl of indignation from an outraged and misrepresented people. When, to cap the climax, in May last, the British Foreign Office interfered with the right of the Chinese Government to administer its own affairs, and reverted to the spheres of influence in the matter of the International Construction Company, which denied the right of Germany and America to participate in the financing and construction of railways in the Yangtze Valley, and when Sir Edward Grey obliquely indorsed this policy in his speech in the House of Commons on July 10th, ulto., is it any wonder that the German Government, taking advantage of the murder of the Austrian Archduke, decided that it was no use to postpone the issue, and that the hour to strike had arrived? We do not pretend to say that this statement is true to facts, but that it had a powerful bearing on the state of feeling in Germany, we are positive.

We can now analyze the activities of the formidable British Engineers' Association, whose founder and Secretary is largely responsible for the creation of this wave of hatred against Britain in Germany, the feeling of distrust in France and the loss of respect for Britain amongst Americans.

THE BRITISH ENGINEERS' ASSOCIATION

In 1912 there was organized in London a combination of British manufacturing engineers under the corporate title of the British Engineers' Association, whose prime object was the advancement of British engineering practice abroad, with special reference to China. The aims of the Association as set forth in its propaganda literature, and the success claimed for its work in China after two years of existence, have such a far reaching effect on the trade of other countries and bearing on certain important questions, relating to the maintenance of the Open Door, and the position of America, that it is our duty to place before our readers some pertinent facts connected with its policy and propaganda. In order to avoid all misunderstanding we present herewith in the form of an appendix the official circular of the association for 1913, as well as certain articles which have appeared in inspired British papers, on which our deductions are based.

We have followed with close interest the reported development of the campaign carried on in China for the advancement of the special objects of this Association, and have carefully read and preserved all records about its work and plans published in British newspapers, especially such articles as have appeared from time to time in the columns of "Eastern Engineering" a monthly trade paper which faithfully reflects the policy of the Association. As the motives of the Association and those which guide the above mentioned trade journal, have so much in common, a reference to the policy of "Eastern Engineering" is necessary for a full understanding of the following arguments.

"Eastern Engineering" was founded in 1910 by Mr. Stafford Ransome, a journalist of undoubted ability, and a competent authority on certain phases of Far Eastern affairs. The keynote of his editorial policy and bid for support rested solely on an appeal to the intense national feelings of British manufacturers, and found expression in the standing notice carried in the Editorial heading of the paper announcing **"No Advertisements of Continental or American Manufacturers can be accepted on any terms."**

Mr. Ransome's journalistic energies were concentrated primarily on an alleged exposure of German trade methods and competition which he openly characterized as the German "blight," *to be exterminated at any cost*. After Germany, the American manufacturers and their reputed success in China came in for his denunciation and criticism. It is quite evident that a purely national organ, appealing to the existing national jealousy against Germany, with the British flag nailed firmly to the mast, and whose policy was a constant insult to Germans and their business methods, and an exhibition of journalistic spleen against all manufacturers other than British, could not hope to be a complete success in the complex international trading community residing in China, where the paper was expected to carry weight and influence. Many important British engineering manufacturers have for years entrusted their interests in China to German firms; many German manufacturers were likewise represented by British traders and both German and British firms in China efficiently and faithfully acted as the agents of American manufacturers. Owing to the existence of national monopolies and the slow development of industries and railways in China, manufacturers of all countries finding the business did not warrant the maintenance of their own offices or representatives were satisfied to entrust their interests to those trading firms already firmly established, whose financial standing guaranteed the payment of the orders secured. The situation from a national viewpoint was far from being ideal, but the manufacturers if dissatisfied with the agent always had the option of establishing their direct branch offices. In other words, commerce, especially in the engineering branches, was conducted in China as fitted the exigencies of the existing conditions with more or less harmony between manufacturers at home and their agents. It is obvious that trading concerns of the same nationality as the manufacturers they represent, should preferably be entrusted with pushing their mutual national interests, but

where this is not always possible, there is no other remedy but to arrange an agreement with the firm best equipped to get the business, regardless of nationality.

The campaign against German and American competition and the attacks on their methods naturally engendered intense national feeling and animosities, especially amongst the many reputable and enterprising German firms who were large dealers in British goods. A feeling of resentment was born which has steadily developed into open expressions of national hate. There is no surer way of intensifying national hatreds than by the injudicious employment of newspaper invectives, and most modern wars can be traced ultimately to the gross partiality of inspired national organs.

It is an axiom with all honest merchants that lasting trade cannot be built up by discrediting the wares of the competitor. Successful business is based on the intrinsic superiority of the products offered for sale, except where cheapness is the essential quality. If goods lack merit, no amount of persuasion can secure repeat orders. The merchant or salesman who relies on defaming the character, methods and wares of his competitor, instead of demonstrating the superior quality of his own, cannot hope for permanent success. And so with Nations and National Associations. Characterizing German trade methods as the German "blight" to be exterminated at any cost is no inducement for Chinese and other purchasers to patronize British manufacturers, nor is it conducive to perpetuating cordial trade relations with other large and important nations who freely purchase British goods. If the German "blight" is obliterated, we may reasonably expect that once their threatening competition is killed, the epithet of "blighters" will be extended to the next formidable competitors, who in the mind of "Eastern Engineering" are the Americans.

The policy of "Eastern Engineering" finds partial expression in the following extract from an editorial in the June, 1912, issue.

"At the present day, or rather, just before the revolution, China was worth as a recipient of machinery, metals, other engineering plant and engineering accessories, something like £8,000,000 annually. Of this some 40 per cent fell to the share of British firms. *That is not enough*, and it is not nearly what it would be but for the fact that our manufacturers are handicapped by a network of unfair conditions."

"To begin with China has been mortgaging her financial soul to our competitors and when the bankers of other nations lend her money they have invariably coupled their accommodation with stipulations which have told in favor of their own manufacturers. When British financiers lend money to China they ignore the interests of the engineering firms entirely, and as often as not any plant purchased with the money thus lent is ordered from our foreign competitors. If the British Engineers' Association can affect alteration in this iniquitous class of transaction it will have justified its existence on that ground alone."

This last misleading statement indicates the intense patriotic program of Mr. Ransome. He admits that the British share of China's engineering imports in 1911 was 40 per cent of the total, but holds that it is not enough. In view of other national activities and interests in China, the impartial critic would say that Great Britain's share was rather more than a fair percentage of the total, and Mr. Ransome's comment would indicate that he held the view so often advanced against a certain type of Britisher, that he wanted to "hog it all" for Britain. A surely worthy and patriotic feeling, but rather indifferent to the legitimate aspirations of those other than British who also look for a fair share of the great Chinese market under the established laws of free competition. Mr. Ransome's ideas found ready listeners. Out of an article in "Eastern Engineering" sprang the germ for the creation

of a strong British Engineers' Association for the furtherance of their interests in China. The idea was received with approval and adopted by some of the largest engineering concerns. Mr. Ransome took a very active part in the preliminary propaganda work and organization of the Association and was rewarded with the position of active Secretary of the incorporated body. In relinquishing the management and editorship of "Eastern Engineering" to assume his new duties, the journal editorially announced that although he would take no further active part in the management of the paper, there would be no change from the policy he had initiated. Mr. Ransome has no further active official connection with "Eastern Engineering," the paper is very emphatic on this point, in fact very touchy, but the evidence is irrefutable that his policy still directs its work, and he personally directs the work of the Association. In establishing the connection between "Eastern Engineering" and the British Engineers' Association we cannot be accused of distorting facts, as our only sources of information are the printed statements of the journal itself. The following facts extracted from the pages of the journal are not without their significance.

Mr. Stafford Ransome, until he became Secretary of the British Engineers' Association, was the founder of and managed and edited the two journals, "Eastern Engineering" and "African Engineering." They were created exclusively for the furtherance of the interests of the British manufacturing engineer, even to the exclusion of foreign advertising and rejection of German subscriptions. The ownership of these papers was vested in a limited liability company styled the British Press, Ltd., in which Sir William Porter and a Mr. Brindley appeared as Proprietors and shareholders. As Mr. Ransome was the founder, manager and editor it is fair to assume that he was also a shareholder. The original idea for the formation of the British Engineers' Association sprang from the brain of Mr. Ransome, and the Association makes formal and due acknowledgment of the great services rendered by the above named gentleman, and rewards him with the position of its permanent Secretary.

"Eastern Engineering" is very emphatic in asserting that there is no connection whatever between it and the British Engineers' Association, and that no one holding interests in the one concern holds any interest whatever in the other. We have no desire to press the point, but as Mr. Ransome is only a salaried secretary or employee of the association, he of course does not hold any interest in it. He might still hold his interest in "Eastern Engineering" and the above statement would be technically correct. We can also be fair and take it that Mr. Ransome has disposed of any shares he may have held in the British Press, Ltd. It cannot alter the situation.

It is clear, however, that as long as the British Engineers' Association retains his services as its active secretary, in charge of all its correspondence and propaganda work, there will always exist a very strong link which binds it to "Eastern Engineering," which openly declares that Mr. Ransome's policy still guides its work. There may be no technical financial connection, but a community of interests and policy will exist as long as the creator of the joint enterprises manages the operations of the Association. I have endeavored to establish and emphasize this connection as on it hinges to a large extent the corporate honor of the Association itself, as the following facts will amply prove. Some one blundered and has brought upon the Association as a whole a most serious charge, from which it can only escape with dignity and honor by fixing the responsibility upon the person or persons guilty of holding them up to judgment.

We can now proceed to a careful study of the objects of the Association, the means by which they are obtained and a frank discussion of the ethics involved. We hope to prove that although the aims of the Association are worthy and legitimate, the tactics officially adopted to gain their ends are open to honest criticism as being unworthy of a great and powerful organization operating under official approval and support. To avoid the faintest charge of misrepresentation or unfairness we append to this all references. With these before us we can now proceed to analyze and discuss the points we desire to accentuate.

The first and most significant item that strikes the eye and

one which later on in the discussion assumes the greatest importance, is the official list of the Honorary Members of the Association. At the foot of the roll of eminent Britishers who have contributed to the advance of their country's prestige in China, appears the well known name of Dr. George Ernest Morrison, newly appointed Adviser to the Chinese Government. In referring to the previous literature of the Association, and to the printed reports of speeches, it is found that the name of Dr. Morrison as the Adviser to the Chinese Government was on various occasions publicly mentioned as an Honorary Member of the Association. The latest official circular of the Association dated January, 1914, still bears the name in the list of Honorary Members. In a speech delivered by Sir Walter Hillier, the predecessor to Dr. Morrison as Adviser to the Chinese Government and a personal friend of the latter, at the Inaugural Dinner of the Association held at the Hotel Metropole in London on December 3rd, 1912, special reference was made to Dr. Morrison in the following terms: "Dr. Morrison, an Honorary Member of this Association, perhaps a still greater authority, maintains that China is already regenerated." Here we have not only the official record of the Association but a direct reference by Sir Walter Hillier that Dr. Morrison, the Adviser to the Chinese Government was an Honorary Member of the British Engineers' Association, which identifies him with all their objects and implies that he is in cordial sympathy with their program. Are we justified in inferring from this connection, that Dr. Morrison must necessarily employ his high position and influence to promote the special objects of the Association with the Chinese Government?

Otherwise why should his membership be solicited to an engineering association, and his name spoken of in official meetings and published in official circulars. Dr. Morrison is a physician and a journalist, he is not an engineer. In what manner then could Dr. Morrison promote the objects of the Association except through the influence of his position as Adviser to the Chinese Government, which to those on the ground means the Confidential Adviser to the President and the circle of immediate officials who control the Government. Dr. Morrison's position is one quite distinct from all other advisers. The utmost secrecy attaches to his work with the President. His value to the Chinese depends on maintaining his reports secret. His influence with the President and the Cabinet is undeniably great. The value of his advice to the Chinese Government rests solely on its sincerity and disinterestedness. As an honorable gentleman his duty to the Chinese is to give them counsel, free from any taint of national prejudice. Otherwise his services are worthless to the Chinese, and all other nations have just grounds on which to vigorously protest against his retention in such an office. The mere fact that Dr. George Ernest Morrison's name is included in the list of Honorary Members of the British Engineer's Association, while he is actively holding the trusted position of confidential adviser to the Chinese Government is in itself an accusation of interested motives which, if true, would disqualify him for the position. All nations other than British would have an undeniable right to demand his immediate dismissal from the post as his activities and sympathies must perforce be a menace to their legitimate aspirations to participate equally in the development of China.

In some quarters Dr. Morrison's reputation has already received a blow from this published connection. Is it fair for American manufacturers (and those of all other nations) to look on Dr. Morrison as the special instrument for advancing the objects of the Association with the High Authorities at Peking? Is it unjust for those whose interests are jeopardized, to ask if it is through Dr. Morrison's influence that the Association is to advance its special objects to have all American and German engineering advisers to the Chinese Government replaced by Englishmen, and to bring the necessary pressure to bear on the Chinese for the adoption of British engineering standards and specifications to the exclusion of all others? Is it through Dr. Morrison's intimate knowledge of what goes on behind the scenes in official China, that the Association is to receive the advance information to enable them to forestall all competitors, in fact is it unfair that others should see in him the one great instrument of the Association to assist them in their schemes?

If the Association has employed Dr. Morrison's name without his permission then they are guilty of destroying his reputation and usefulness, and he has a legal right to demand heavy damages in compensation. We understand that Dr. Morrison has stated that the Association used his name without his permission. If true, he has been deeply wronged, and no public apology can adequately wipe out the impression that has been created amongst many who may never read or hear of the correction.

So far we have dealt with that phase of the matter which concerns the Association and Dr. Morrison. We will now turn to the pages of "Eastern Engineering," whose policy is dominated by the Secretary of the British Engineers' Association. We have already established the connection existing between the Association and the journal. The Secretary of the Association is admittedly responsible for the editorial policy of the paper in question. In view of the intimate confidential relations which must exist between him and his former assistant who is now editor, it is fair to assume that any editorial reference appearing in "Eastern Engineering" concerning the work and policy of the Association must be authoritative. Under the title of "The Rapid Progress of the British Engineering Association" there appeared a leading editorial in the issue for June, 1913. In the course of this article appears the following significant sentence:

"But apart from the influence of its members, the Association has been extremely fortunate in possessing as its Honorary Members and ADVISERS men like Sir Walter Hillier and Dr. Morrison, the late and present advisers to the Chinese Government respectively."

Here we have a semi-official announcement through the inspired "Eastern Engineering" that Dr. Morrison in addition to being an Honorary Member, is also an ADVISER to the British Engineers' Association while he is actively holding the position of Adviser to the Chinese Government. Despite all disclaimers to the contrary, all information published by "Eastern Engineering" concerning the work of the Association, must be considered as authoritative. With all the facts before us, the impartial critic is justified in accepting it as official. So here we have an official and authoritative admission that Dr. Morrison, the present Adviser to the Chinese Government, is also an Adviser to the British Engineers' Association, thus firmly identifying him with the objects and campaign of the Association in China and with all that such advisership implies and signifies. In brief, is it fair to infer from this admission that the actions of the Association are guided by the undeniably valuable advice of its adviser? The editor of "Eastern Engineering" has apparently laid himself open to prosecution for libel.

The official use of Dr. Morrison's name as an Honorary Member of the Association at the time he is holding the position of Confidential Adviser to the Chinese Government in itself was sufficient to undermine his usefulness, but in the coupling of his name in the capacity of Adviser to the Association and Adviser to the Government at the same time and in the same sentence,

*We have received copies of the Official Circulars of the British Engineers' Association, dated October, 1913, and January, 1914. Our attention is directed to the fact, that in both these circulars, the Association has left nothing to the imagination as to the connection of Dr. Morrison with its campaign. On Page 22 of the October, 1913, circular, is found the official announcement that the Association is fortunate in having seven of the most eminent living authorities on China as Honorary Members and Advisers, and refers the reader to page 7 of the circular for their names. Reference to Page 7 discloses the names of seven, in which is included the name of Dr. Morrison, Adviser to the Chinese Government!

In the January, 1914, circular, the same statement is made but the names of eight Honorary Members and Advisers are referred to on page seven. Reference to this page again discloses the name of Dr. Morrison on the list of eight.

In other words, since the publication of the official information in the June, 1913, issue of "Eastern Engineering," the Association has itself officially classified the Adviser to the Chinese Government as an Adviser of the Association, thus firmly identifying Dr. Morrison with all their objects, and as one of their prime movers.

We are also in receipt of the information that the Secretary of the Association has gone a step further and in the confidential bulletins for circulation amongst the members of the Association, he has led them to believe that Dr. Morrison was the main support of their Resident Commissioner at Peking for the advancement of their propaganda.

those responsible for such a libel, have done him a grievous wrong. A further study of the aims and objects of the Association will make it clear why in the face of these statements it would be impossible for Dr. Morrison to retain his post and continue to enjoy the trust and confidence of other nations and the Chinese, if they were true.*

There can be no just criticisms on the general plans of the Association for the purely legitimate advancement of British Engineering principles in China, but an examination of the objects as revealed in the official circular and in speeches expose certain aims which every other nation has a right to protect itself against, in whatever manner it may see fit.

In the first place it is announced that the Association received the formal recognition of the Foreign Office on December 20th, 1912, and its status was recognized by the Chinese authorities. In other words the Chinese Government recognizes that the Association is official in character, which gives a decided advantage to the Agents of the Association in its dealings with Chinese officials. The Members are informed that the British Minister in Peking has been instructed by the Secretary of State for Foreign Affairs to give his official support to the Members of the Association who may be travelling in China, and to instruct the British Consuls throughout China to do the same. Is it unfair to assume that the Chinese officials who are not deeply informed as to the nice distinctions between official support and a purely Government bureau, should incline to the belief that the Association is some kind of a Government Department and its agents regularly accredited commercial attaches to the British diplomatic service in China. Close analysis will reveal that there is no distinction between the agents of the British Government, and the agents of an official organization having the full approval and support of the Government. A further perusal of the official circular in that part outlining the duties of the Resident Commissioner of the Association in Peking, reveals that one of his most important functions is to make full use of the fact that the Association is formally recognized by the Foreign Office. Still further on in the circular in describing the benefits arising from membership in the Association, the inducement is held forth that as the Association has the official recognition of the Foreign Office, it can obtain for its Members the support of the British diplomatic and consular officers throughout China. And we may add, that reading between the lines, and making a reasonable interpretation of the circular, this also conveys the idea, that as the official status of the Association has been recognized by the Chinese authorities, the inducement may also read that the Members can rely on receiving a most cordial reception from the latter, especially as they are all vouched for by the British Minister and the British Consuls throughout China.

The facts plainly set forth in the official literature of the Association therefore admit of only one interpretation and clearly identify the British Foreign Office, the British Legation at Peking and the British Consulates throughout China in addition to the British Confidential Adviser to the Chinese Government with all the aims, objects and aspirations of the Association and its propaganda. The manufacturers of all other nations have the right to believe therefore that the Association is official and works in co-operation with the British Government. We fail however to see the names of any high active officials of the British Government on the lists of Honorary or other membership, although a representative of the Foreign Office was present at the Inaugural Dinner. In the words of the President of the Association, it was not deemed prudent to ask this representative to say anything, as the Foreign Office did not wish him to say much. This scrupulous and exact attitude for the dignity of the British Government officials, is clear indication that the leaders of the Association had a fine appreciation of the ethics involved in coupling the name of any active British official with the work of the Association. This regard for the British diplomatic officers stands in striking contrast with the open use and abuse of the name and reputation of the Honorary Member who holds the important and delicate position of Adviser to the Chinese Government, especially as China was the country selected as the sphere of its immediate activity.

With a clear conception of the objects of the Association and the methods employed to attain success, with all that the official recognition of the British Government implies and signifies, with the logical inference which honestly can be drawn from the connection with the Adviser to the Chinese Government, and after a careful digestion of all the facts, can the honest and impartial critic be censured if he fails to distinguish any ethical difference between the methods employed by the British official Association and that of the much denounced German scheme for the furtherance of their foreign trade, only the latter went a step further and openly advocated the use of large sums for publicity purposes. The ends were the same, and apparently the end justifies the means in both instances, without inquiring too closely into the morals and ethics involved.

The only material difference seems to be that the German Foreign Office contributed the entire secret service fund of £12,500 per annum to the war chest of the German Association organized for the furtherance of German industrial prestige abroad. Of this, we will treat later on. For the present the fact is established that the British Government contributed the full weight of its official support to the British Association. The British Minister at Peking and the British Consuls throughout China were instructed to recognize the Association as official, and extend to it every support in its work, and the Resident Commissioner of the Association in China was instructed to make full use of this fact, and on the other hand it was held out as an inducement to secure the adherence of new Members, by the officers of the Association in their propaganda work in Great Britain. Although the British Government refrained from contributing hard cash to the campaign fund of its national organization, it did extend its unqualified moral and active support. It is not difficult to capitalize official support of this kind. In effect, it was more valuable to the work of the Association than an actual cash contribution, and it is clear that the Association fully appreciated this point by their advertisement of the support and the instructions to its Commissioner in China. Is it unreasonable to deduce from this, that new members were persuaded to join the association by emphasizing the official connection with the Government? We have heard of official support being employed in similar ways.

As new Members paid the initiation fees and annual dues, and became liable for such calls as might be made on them for special contributions, did not the official support of the British Government have a most important and distinct bearing on the finances of the Association? Or is it unreasonable to suppose, that this official support was employed as a club to compel reluctant members to join? For it is evident that if only Members of the Association were to receive official recognition, letters of introduction and credentials to high Chinese officials, and the assistance of the Agents in China, by the same token those manufacturers who preferred to do business in China independent of the Association, would be looked on as rank traitors and outsiders, and be refused all these advantages arising from official support, and be compelled to "paddle their own canoe." We are therefore compelled to believe that the official support tendered to the Association and its work, was equivalent to an actual cash subscription in its effects, and it can be and has been capitalized to the full in the furtherance of its designs.

While we are discussing the ethics and morality of official support in the form of cash, we may admit that we see no harm in this when the objects are the advancement of the national interests, as all Governments have funds for these worthy purposes, which do not always appear on the surface. The German Government was "caught in the act" and the gross immorality of subsidizing foreign newspapers and purchasing publicity to advance German interests shocked the finer sensibilities of the British. How much money have other nations expended in publicity work of this nature? "The Times" is a standing reminder to British readers, that special Supplements devoted to advancing the commercial interests of various countries, and paid for by official and private contributions, are not unknown in England. Has not Germany the right to purchase publicity in papers throughout the world for the same purpose? What was the object of the great Japanese Special Edition of "The

Times," and the many Russian and other Supplements which have appeared from time to time in connection with this same paper? If "The Times" had not guaranteed to publish the articles in a favorable light for advertisement and furtherance of Japanese and Russian interests would the latter have paid the cost of the work? If the leading exponent of British opinion can find no harm and retain a clear conscience for selling its space for the advancement of other foreign interests, how can Germany be accused of immorality when she plans to do the same thing on a larger scale? All newspapers have space for sale either in the shape of special editions, supplements or reading notices, and as long as the editorial opinion is not bartered away, it is part of a newspaper's business and a source of legitimate revenue. You cannot apply one principle and code of ethics in England and deny to Germany or other nations the same privilege.

This all leads us up to the next phase of the work of the British Engineers' Association, and permits some pertinent questions as to the morality of the British program. At the Inaugural Dinner of the British Engineers' Association, Sir Charles Dudgeon, one of its Honorary Members, made the following significant remark in the course of his speech; **"Money, of course, would be required. The Association must have its own agents to exploit the field, and in so vast a field they would need many agents. But it was not only for the salaries and travelling expenses of those Agents that money would be required. TO GET BEHIND THE SCENES IN OFFICIAL CHINA WAS AN EXPENSIVE MATTER and it was essential that the representatives of this Association should know everything that there was to know."**

Many constructions can be placed on this appeal, and in view of the high standing of the speaker we are content to accept it as referring to legitimate expenditures. But if analyzed in cold blood, what does it signify?

Can the impartial reader be accused of bias if he reads into these words, a suggestion of bribery? If it is an expensive matter to get behind the scenes in official China, and it is essential that the representatives of the Association should know everything there was to know, how otherwise can this be interpreted, than as it reads? All legitimate official information can be readily obtained in regard to contracts, by waiting until such time as tenders are announced, when all competitors will have an equal opportunity. Any attempt to obtain this information in advance by the expenditure of money, for the benefit of the British Engineers' Association is not only immoral and unfair, but a transgression on the rights of others. Only by the bribery of Chinese officials can the Association be kept accurately informed as to all there is to know. Does the British Engineers' Association approve of methods loudly denounced by its organizers and by the British press as peculiar to the Germans, by openly advocating that a bribery or corruption fund is essential to get behind the scenes? We are fully conversant with the prevailing methods of getting on the inside in China as practiced by certain firms and national interests, and to our experienced eye, this can only be construed in one manner.

Are we justified then in assuming that a fund is available for getting behind the scenes in official China? Is it unduly stretching our imagination if we ask if the Political Adviser to the Chinese Government who is also an Honorary Member and alleged Adviser to the Association is the medium through which it hoped to be kept informed in advance of everything that there was to know? Are we justified in assuming that the British Foreign Office the Minister at Peking, and the Consular officials throughout China, who are identified with its work, are cognizant of and approve of the suggestion conveyed in the words of Sir Charles Dudgeon? Mr. Alston, of the Foreign Office, represented the Government at the Inaugural Dinner and must have heard the speech.

Such a thought is, however, preposterous. Yet we maintain in all seriousness that other critics not so friendly would not hesitate to couple these facts together, in the same manner that the British Press throughout the world have unanimously condemned the participation of the German Foreign Office in the scheme of its national organization for furthering German trade abroad.

The Association does not carry on trade or make profits. It is not a commercial body. Its objects are to advance the collective interests of all its members. In reality, therefore, it is a Missionary Society to educate the Chinese to adopt British engineering principles and purchase British machinery, particularly the products of its Members. Why then, may it be asked, are so many agents required to cover the field? How is the money to be expended to carry out this campaign of education? The only legitimate way to attain this end is through schools, colleges and publicity. Agents preaching the gospel of British superior methods cannot hope to make any lasting impression on the mind of the Chinese purchasers of machinery, unless supported by reading matter either in the shape of special pamphlets or the columns of friendly or subsidized newspapers. Let us suppose that an Agent of the Association succeeds in convincing those behind the scenes of the superiority of British principles for any specific purpose. The unsupported claim of superiority is not sufficient. It must be upheld by first cost and efficiency under given conditions. In China, first cost and long credit are usually the tests of superiority. If the agent is unable to quote prices and terms to the prospective Chinese customer, how can he convince him that British goods are the best? If he does quote prices, whose prices will it be? To be honest and fair to all the members of the Association he must be able to quote all the prices of all those who compete with each other. Otherwise his arguments cannot be convincing and lasting for the Chinese customer.

To be successful along these lines the agent must be fully prepared to quote prices on the spot and close the deal, thus carrying on a direct trade. Or, is it the intention of the Association that after all the missionary work has been done and the purchaser convinced and pronounced in his faith in British principles, that the information is to be sent home so that all members can get after the order. Obviously, the manufacturer who has an Agent in China will telegraph to him, and these favoured few will always secure the business, provided, that the German, American or other agent who may follow on the heels of the non-commercial missionary by being able to quote immediate prices and terms, does not obtain the coveted order. Unless the Agents of the Association have some connection with British commercial firms in China, who are on the spot and can quote immediate prices and terms, and strike while the iron is hot, it is difficult to see how their activities can produce practical results. If such connections should be established with British trading firms in China, it is again obvious that this would be unfair to those members not represented here. It is clear then that as the Association is not a commercial one, and not equipped or authorized to close a contract after having paved the way, we must seek for an explanation of their activities, and need of lots of money in some other quarter. Publicity? Yes, this would absorb lots of money, but as yet there is no evidence that money has been expended for this purpose in China. We are compelled to return to the suggestion implied in Sir Charles Dudgeon's speech as to the expensiveness of getting behind the scenes in official China. All of the objects of the Association are not clearly defined in the printed official circulars. To get behind the scenes of the Association one must also refer occasionally to those objects proclaimed in speeches to arouse interest and induce new members to join, and to refer to articles and editorials published in friendly British papers.

The Real Objects of the Association

At a meeting held at Birmingham on May 29th, 1913, in order to induce engineering firms of that city to join the Association, Mr. Douglas Vickers, its President, spoke some very plain truths about its scope and objects. In discussing the best way for British engineers to meet the competition of other countries, and the necessity for combined action, Mr. Vickers said:

"They would be able to urge their claims on Parliament; they would be able to get the support of the British Ministers in China for English manufacturing engineers in China, and other places abroad, and, further, **they would be able to press the British Government to use their best endeavors to get the Chinese Government to appoint to engineering posts Englishmen, rather than Germans or Americans.**

In that direction there was an immense amount to be done."

"The real object of their competitors was to attack China in that way, by getting Germans or Americans as the case may be appointed as advisers and teachers to the Chinese, in order to bring up the Chinese engineer of the future with German and American text books; to get German and American ideas, and finally to work with German and American machines."

"There they thought their Association had a very good field for work. But in China the Association had another field open to it; that of preparing the Chinese Government for the reception of British manufacturers by bringing before them the fact there were great and good manufacturers in this country who could be trusted to supply the best goods the world could make. **They wanted their Commissioner to bring these facts always before the Chinese and get British Engineering Standards adopted."**

Here then is the "nigger in the wood pile," which explains much that has hitherto been obscure. To replace German and American engineering advisers and teachers by Englishmen; to secure the appointment of British advisers to new posts, and to influence the Chinese to officially adopt British engineering standards and specifications in their railways and other Government engineering and industrial works. These then are the real objects of this missionary association and are worth working for and expending large sums to get behind the scenes in Chinese official life. What would it not be worth to this Association to have the Chinese Government adopt officially the British engineering standards and specifications? Consider how much time and money is expended by the individual manufacturer to have his patent or specialty specified in a public tender, which freezes out all other competition and allows him to make his own price, and we begin to have some idea of the enormous benefit to British engineering manufacturers in general, if their standards are adopted as official by the Chinese Government and specified in all railway, bridge and other important engineering undertakings. **The success of this would mean that the Door of Equal Opportunity would be permanently closed to American and other Manufacturers, especially those of railway and bridge materials.** As there is little fundamental difference between British and Continental railway practice, the adoption of British standards would not debar them from a fair chance to compete, **but the real sufferers who would be driven from the Chinese market, would be the American manufacturers of locomotives, cars, bridges, structural steel, and other American specialties.** So the real aim of the British campaign can honestly be construed as a widespread official conspiracy to drive the formidable American competitor from China, and close the door on him so he can never hope to re-enter. Although from the British viewpoint, it is a very praiseworthy and patriotic action for the official association supported with all the power and prestige of the Government and with the alleged aid of the British Adviser to the Chinese Government, to do all in their power to attain their ends, we may be pardoned if we question the fairness and morality of it all to manufacturers of other nations. The FAR EASTERN REVIEW has steadily fought against great opposition for the principle of fair play and impartial drawing up of specifications for Chinese railway materials until we are disheartened that we will ever accomplish anything. We have persistently contended that the Chinese Government should appoint a commission to devise its own standard specifications in such a manner that the manufacturers of all nations would be placed on a more or less equal footing. But all the opposition to this seems to come entirely from European sources, who still persist in having their specifications adopted in spite of all efforts to secure Fair Play.

Is it fair for us to assume that this is the real underlying motive of this Association?

We are confirmed in our conviction that these are the real objects of the Association as evidenced by the fact that it is not a commercial body and has no authority to trade. Therefore it is a society for the accomplishment of certain specific ends outside of trade. A letter to the editor of "Eastern Engineering"

from the Secretary of the Association dated June 9th, 1913, clearly indicates that its objects are to facilitate and increase the business of British engineering firms by smoothing out some of those obstacles to their trade which cannot be overcome by the individual manufacturer. Reverting to the suggestion implied in the speech of Sir Charles Dudgeon that lots of money would be needed, and emphasizing the expensiveness of getting behind the scenes in official China, and that it was essential that the representatives of the Association should know all that there was to know, it is illuminating to carefully ponder over Article 9 of the Objects of the Association as set forth in its official circular; **"To aid by advice, co-operation, donations or otherwise any individual or concern who is able to promote the objects of this Association."**

Donations to whom? Chinese officials? We understand the Resident Commissioner in Peking has a considerable fund for entertaining purposes. This is legitimate enough, but what about DONATIONS to those who are able to aid the good work? How large a donation would be deemed advisable and appropriate for the well disposed Chinese official who could influence the adoption of British engineering standards and specifications on the Chinese Government railways? SOME donation! Is a donation available for those who can aid in securing the appointment of British Advisers to the Chinese Government? Has not the Association made it possible for the caustic critic to ask the pointed question: Does the Honorary Member and alleged Adviser of the Association indicate the needy officials worthy of receiving a donation in proportion to their ability to advance the special objects of the Association? Or is the word "donations" intended to cover the free equipment of colleges and schools with samples of British machinery and technical appliances and instruments? This legitimate avenue for distributing donations would seem to be covered by the provisions of Article 8. Perhaps Article 9 is merely a repetition of the preceding one and refers to legitimate donations in aid of colleges and schools, or assistance to purely British firms and individuals who would be rightly entitled to receive such aid in return for their patriotic work in advancing the interests of their country. How can we tell what to think? As it is not clearly specified, it leaves a broad construction to be placed on who shall or shall not be entitled to benefit through these donations. We have heard stories in China, of foreign Chinese Government engineers receiving a comfortable monthly allowance or "donation" from trading firms in return for having the specialties of the latter specified by name in public tenders for supplies. Is it fair to ask if something of the same nature is contemplated by the British Engineers' Association through their accredited agents in China, operating with the support of the British Government, and recognized as official by the Chinese authorities?

Appointment of British Advisers

To achieve the ultimate success of their propaganda, it is clear that the road will have to be carefully prepared by the suggestions and counsels of Advisers to the Chinese in engineering matters. At the very outset of the campaign, the Association becomes responsible for and openly indorses the questionable method of influencing the appointment of interested Advisers. This is in strong contrast with American methods in China. Every engineering Adviser selected by the Chinese authorities on the strength of the indorsement of the Association would undoubtedly enter upon his duties with the idea of advancing the interests of those who secured his appointment. The Chinese would accept his services with the feeling that they could rely on his sincerity and impartiality. In reality, they would be paying the salary of a high class expert working to advance the special interests of those instrumental in securing his appointment. In other words, the British program can be construed as encouraging professional men to act in conflict with the code of ethics adopted by all engineering societies throughout the world. It stands to reason that any candidate put forward by the Association for the position of Adviser to the Chinese Government on Technical or Engineering matters, will not receive support unless he has consented to advance the objects and aims of the Association. Therefore any adviser who may receive such an appointment through the agency of the Association must necessarily constitute a barrier to the legitimate rights of

other nations to equitable treatment and a fair field for their share of the business. We are not going to labor this point. A campaign which endorses the subversion of professional ethics to advance national or special interests is open to the severest condemnation. The duties of the Resident Commissioner are openly set forth in the official circular as follows:

"To use his influence and that of the Association to secure as far as possible British Advisers and Constructors to the Chinese in Engineering Matters."

What has the Association accomplished to date in this great object? Their last Annual statement is not at hand, but an editorial headed "British Engineering in China" appearing in "The London & China Express" of September 4th, 1914, discloses some interesting information. Amongst other things it tells us that **the British Engineers' Association "is to be congratulated upon having succeeded in obtaining the appointment of a British Engineer as Mining Adviser to the Chinese Government and, we understand, is also endeavoring to secure other kindred appointments."**

So it is clear that the Association has not lost sight of its main objects. They have obtained the appointment of a Mining Adviser and are working to secure other kindred appointments.

THE GREAT OBJECTIVE

What is the great objective of the Association?

Where do they wish to establish exclusive British standards and specifications?

What is the most important field for their activity?

Where can the appointment of an Adviser in sympathy with their aims hope to secure lasting results?

The answer is clearly apparent.

It is only in the equipment of government railways that they can succeed in having British Engineering standards and specifications adopted, as all other openings for machinery are largely a matter of private initiative controlled by the individual option of the purchaser.

It is clear on analysis, that the adoption of British standards and specifications on the Chinese Government railways is the one great purpose of this official association. To achieve success and close the door to others, they must first influence the appointment of a British adviser to the Ministry of Communications.

If the American and other Governments refrain from taking an active interest in this matter, and the British official organization is successful in securing the appointment of their candidate to this post, what will be the ultimate effect on American engineering trade with China? Does not this whole campaign tend to oust American engineering materials, and influence the official adoption of British standards and specifications through the appointment of a British adviser to the Railway Board? Can it not be construed as a deliberate attempt on the part of the British manufacturers aided by the British Government, and supported by the alleged British Adviser to the Chinese Government to close the Door of Equal Opportunity to America?

What can America do to protect her manufacturers from the logical effects of this campaign so openly and strenuously waged, and preserve the market open for her manufacturers? American trade interests will be menaced, as it will be almost impossible to counteract the secret activities of this official Association. The official records of the Association indicate that money is available for advancing its interests, and in addition, it has the powerful support of the British Government and the alleged sympathy and advice of the Adviser to the Chinese Government.

Unless some step to protect American interests is taken it is not difficult to foresee the time when the door will be closed to any further participation of American manufacturers of engineering materials in the development of China. The present situation concerning the tenders for bridges on the Hukwang Railways is an indication of the intensity of the campaign to secure the adoption of British standards in defiance of the Loan Agreement and the Bankers' Agreement which concedes equal right to the four Powers in the supply of materials for the construction of the lines.

RESUME

We have endeavoured to prove by impartial analysis and honest deduction that the aims and objects of the British Engineers' Association if carried to their logical end, must result in the closing of the door of equal opportunity to American manufacturers in China, and pave the way for the creation of trade jealousies and animosities which if fanned into a flame by the same methods as have characterized the campaign against Germany, can only have one ending. It has been necessary for us to make full use and abuse of Dr. Morrison's published connection with this Association, to make clear the full significance of the propaganda in China. It is obvious that an Association numbering amongst its members the most prominent manufacturers of Great Britain, and the most respected and honored defenders of British prestige in China, can not be held responsible for the use of Dr. Morrison's name as Adviser to their Association, at the same time he was occupying the honored position of Confidential Adviser to the Chinese Government. With an intimate knowledge of Dr. Morrison's honorable work as a journalist, we have been convinced that he never consented to such an abuse of his name, and for two years, notwithstanding frequent urging from American and German firms, we have refrained from making any open comment reflecting on his position. We have therefore been constrained to believe that some official of the Association, was individually responsible for this flagrant breach of decorum. Before completing this argument, we determined to write a frank and open letter to Dr. Morrison pointing out fully and fairly the position he was placed in, and requesting him for a frank reply.

For the logical conclusions we have drawn from Dr. Morrison's published connection with the Association as its Adviser in our efforts to disclose the full significance of its propaganda in China, we tender full and honest apologies. These deductions have been accepted by Americans and Germans cognizant of his alleged connection through reading the various official reports of the Association, and the columns of its inspired organs, and only a full and amply apology published in all the China papers, can assist towards eradicating this erroneous impression. As soon as Dr. Morrison's attention was invited to the facts, he at once wrote to the Secretary and Officials of the Association under date of December 16th, ulto., in the following words:—

"Such a description of me, false as your Association know it to be, is seriously prejudicial to my position in China. Your Association know that I have never been an adviser to them in any capacity whatever nor ever had any communication with them other than to ask for copies of their reports to put in my library.

"At the request of my friend Sir Walter Hillier I, consented to become an Honorary Member of your Association. To describe me as an Adviser to your Association while I am in the service of the Chinese Government is an unwarrantable impertinence. I call upon you at once to publish my resignation as Honorary Member of your Association: you will give the reasons for my so doing, and you will state that I never have been an Adviser to your Association, nor ever will be, and that I emphatically protest against such a discreditable attempt to prejudice the position of an honourable Englishman employed under the Chinese Government."

There is nothing further to be said. This just denunciation from an honorable and conscientious gentleman whose reputation has been filched from him by the unauthorized use of his name in such a manner will meet with cordial approval and sympathy from all who know him, and especially from his fellow journalists irrespective of nationality, who take pride in his selection for the high office he now occupies.

We are informed on the highest authority, that the confidential circulars of the Association to members has emphasized the relation of Dr. Morrison to their campaign, as the main support of the Resident Commissioner at Peking. Much advertisement has been given to the alleged results of the

propaganda in China, manufactured for the express purpose of enthusing the members and deluding them into a belief that they were really receiving some tangible returns from the expenditure of their contributions. In effect, it may be frankly asked, what results have been actually achieved? *Nothing. Absolutely nothing.* Dr. Morrison, the widely advertised mainstay of the Association has been in blissful and innocent ignorance of his important position, and with this prop taken away, it is clear that the much heralded results are nil. Dr. Morrison asserts that he never mentioned its name once to any Chinese official, nor has he ever heard its name mentioned by any Chinese official. And those who know him, will believe him.

We are also informed on good authority that Mr. Wheeler, the newly appointed British Mining Adviser to the Chinese Government, is also greatly embarrassed by the published claims of the Association, that he was appointed through their efforts. We are also very emphatically assured from sources in Peking, that the Association had absolutely nothing to do with Mr. Wheeler's selection, in fact the high Chinese authorities until recently have been totally ignorant of the existence of the Association, and want to know what it is all about anyway. The efforts of the Association to replace German and American Technical Advisers to the Chinese Government by Englishmen, has so far been unsuccessful.

What then has the Association accomplished in China? In spite of all that has been published in inspired and friendly journals in England, from information supplied by the officials of the Association, the cold unpleasant fact remains, that here in China, it has accomplished nothing, and is rarely if ever heard of. The average Britisher accepts it as the usual Association formed for the purpose of enjoying an annual dinner garnished with mutual admiration speeches. It has never been spoken of seriously by any British subject in China, and when discussed at all it is always with an amused interest in what it accomplishes other than finding employment for a salaried staff, who must bolster up enthusiasm by glowing reports of its work. We may state quite frankly that the open publicity given to the objects and aims of the Association have placed all other nations on their guard, and whatever chance there might have been of attaining its special ends, has now been destroyed. The mere fact that a candidate for the position of Adviser to the Chinese Government on technical matters is indorsed by the Association, is sufficient to nullify his chances of appointment. The Chinese will have none of him, as he comes to them as an advocate for the advancement of special interests.

What is the position of the British Government in all this? Has the Association stopped to consider that every mistake reflects on the honor of the Government? The British Government is undeniably compromised, through the wide advertisement extended to its recognition and support to their campaign, and therefore becomes at least indirectly responsible for its activities.

We are now going to hazard our honest opinion that notwithstanding the wide publicity given to the official support and recognition tendered by the British Foreign Office to the Association and its propaganda, that the British Government has also remained blissfully ignorant of the undignified and scurrilous campaign relentlessly waged against Germany and America with the advertised stamp of its official approval, and, that in justice to the outraged feelings of those who have been insulted, it will feel in duty bound to publicly disavow any further connection with its purposes, and defend its reputation by repudiating any knowledge of its past work.

When the British Government is fully informed that the selfish campaign of one Mr. Stafford Ransome, is responsible for the retaliatory attitude of the French Government, French financiers and manufacturers, it will then open its eyes to a realization of how great is the damage done to British prestige in that quarter. For we are in a position to authoritatively and positively assert that in retaliation for the patriotic British program of the British Engineers' Association, the French Government, early in 1914, was compelled in self-defense to enunciate a new financial policy; that in the future, French loans must be employed for the special advancement of French political and commercial interests abroad, and French materials must be specified in loan agreements, and, furthermore,

owing to the repudiation of an official agreement by the British representative of a joint Anglo-French financial corporation, where the equal rights of the French partners were deliberately ignored apparently with the full cognizance of or negligence of the British authorities, the French Government decreed that in the future French financiers and contractors should be prohibited from entering into similar combinations for construction work abroad. We have full knowledge of, one specific instance where this new doctrine of the French Government was immediately enforced to terminate a long standing and mutually profitable combination of large French and British interests operating in foreign fields. The financial loss to the British manufacturing engineers in this one instance alone was greater than any of the alleged advantages reported to have been gained in China. The Association of French Manufacturers in a meeting held last spring, also passed unanimous resolutions that in future French loans must be employed to advance their special interests, and called on the French Government to formally adopt and carry out this policy. If we stop to consider that many large loans and new issues floated on the London market, as purely British transactions, owe their success to the friendly participation of the French bankers, we can begin to understand the reasons which influenced the French Government to resent the selfish policy of the British Engineers' Association, with its hall marks of Government approval. How many loans for the political and industrial advancement of Great Britain in foreign lands, owe their successful floatation to the sympathetic co-operation of the French banks, and in how few instances can it be truthfully said, that any consideration was ever extended to French industries by the British officials in charge of their expenditure. Not only have French manufacturers been rigidly excluded from any benefits arising from these loans, but we can point to instances where the British Consulting Engineer has strongly condemned the quality and use of French materials in enterprises registered as British, but in reality French. British industrial advance owes more to France, than the manufacturers will ever appreciate. Only the inside ring of international financiers have a full appreciation of what the French money market has done for British trade. The war may wipe out the feeling of resentment, and the French may again harmoniously co-operate with the British banks, and overlook the past, but if they do it will be traceable to a pure sense of gratitude and good fellowship for their Allies, and not because they approve of British methods. These are straight truths, which the misguided agitators in England may well ponder over. A very little investigation amongst the interested high financiers and manufacturers in France will testify to the truth of the above statements. The French policy was quietly adopted without any of the publicity accorded to the British program, and as they have a way of pulling harmoniously together for the national welfare that is unknown in Great Britain, they can accomplish results that are impossible to attain in other countries. The French Government's absolute control of the Bourse and new issues, enables them to rigidly enforce any program they decide is best for France, and unless the war compels a modification of the present attitude, the future will show that the British Engineers' Association, has caused more harm to its national interests than good. In fact, it were better if it had never been born.

The French have good naturedly poured out their wealth in the past without any demands for "indispensable" terms, supervision of expenditures or stipulations for the purchase of materials for their manufacturers. They have co-operated fraternally with other interests, and invariably they have been frozen out of the commercial pickings. Their experience in China has taught them a severe lesson, and in the future, when the French bankers are approached to underwrite any proportion of a British railway or industrial loan for this country the French Government will see to it that French materials are purchased in exact proportion to the amount of the loan subscribed for in that country. And to this equitable demand there can be no honest objection. British money will be used to purchase British material and the French financial participation will demand the same privilege, or the British will have to find all the funds themselves. So it is seen that the selfish demands advocated by Mr. Stafford Ransome have firmly closed the door to further French financial aid, unless the latter are accorded

proportionate participation in the supply of materials. No more will the British financial institutions unload half their issues on the French market, and selfishly ignore the rights of French manufacturers, and if British interests suffer, they can thank the Secretary of the British Engineers' Association for curtailing their activities. There were other important reasons which determined the French Government to modify its financial policy, reasons already briefly referred to, and having a direct bearing on the re-establishment of the Spheres of Influence in China, which will be discussed in their proper place.

We ask all honest Britons to give careful consideration to these facts. We have not drawn on our imagination, but have a personal knowledge gathered at first hand in Paris from those most deeply interested. If the campaign of the British Engineers' Association, aggravated by the sharp practice of the agent of the British official railway organization in China, determined the French to take effective steps to defend their own interests, can anyone conscientiously denounce the Germans, if they too felt compelled to take the same measures of self-protection against the operations of the British Association? The virulent campaign against Germany, commenced with the appearance of "Eastern Engineering" in 1910, receiving impetus through the incorporation of the British Engineers' Association and the appointment of Mr. Ransome to the position of its Secretary, in 1912, and then assumed international prominence through the widespread publicity given to the official approval of the British Government to the objects of the Association. If the French Government and its financial and manufacturing concerns deemed it essential for the preservation of their combined political and commercial interests to quietly adopt retaliatory measures early last year, does it not signify that the loudly denounced scheme for the similar advancement of German trade abroad, might also be traceable to the desire to defend itself against the implacable, unreasonable and undignified campaign conducted by the secretary of the British Association? Sir E. Goschen's first report on the German scheme transmitted to the British Foreign Office bears the date of February 27, 1914, clearly indicating that the German and French Governments determined to adopt the same policy at about the same time. The German scheme was devised four years after the opening of the British attack on their methods, and two years after the reported formal alliance of the British Foreign Office with the British Engineers' Association. And yet in the face of these positive facts, a unanimous British press has virtuously denounced the German scheme as highly immoral, and asks the world to accept their biased viewpoint. If the full force of the British campaign had been directed against Americans, the latter would never have waited for over two years before adopting measures of defense, and if they had become convinced as the Germans did, that the entire weight of the British Government was behind the British campaign to eliminate them from the markets of the world, well, all we have to say, that knowing the temper of the American people, they would have demanded an immediate explanation, through their Government, and, failing to receive a satisfactory reply, no questions of ethics or morality would have deterred them from protecting themselves by every means within their power, and girding themselves for the inevitable life and death struggle, against an unscrupulous enemy.

If we recognize that Britain already owns as much of the earth as she can safely govern, and that the most valuable markets are under her undisputed control, and we accept the fact that the one rich field open to the equal competition of all nations, is China, and, if we remember that Germany's colonies are poor and thinly inhabited by aborigines with primitive wants, it is clear that the most important field left in the world where German trade can be profitably advanced is centered in the great undeveloped but potential markets of China. By a process of elimination of other fields, an analysis of the possibilities for any great expansion in the world's trade, conclusively designates China as the present and future strategic battlefield for commercial supremacy. Any open campaign which has for its objective the elimination of influence, and the unrestricted right of any nation to conduct business along the only lines open to legitimate competition, must be accepted by spirited people as a direct menace to their national existence, and if persisted in, can only be solved by a resort to arms. The political strategies involved in the issues between the warring nations have obscured

the fundamental principles at stake. The neutral nations are invited to assimilate the mass of conflicting official statements, and asked to believe that Germany alone is guilty for this horror of the Ages. For the political events which precipitated the war, Austria, Germany and Russia must assume full responsibility at the bar of the world's judgment, but for those deeper commercial forces which unconsciously create and intensify national hatreds, and sooner or later drive a maddened and goaded nation to desperation and compel it to strike blindly with all its power to save itself from extinction, for these provoking influences, are critics justified in asking, in the face of overwhelming proofs, if Great Britain is not largely responsible?

We have seen the germ of jealousy grow from the warped brain of a misguided and uninformed journalist, and blossom out into a bitter, vindictive and implacable campaign, using as its weapons calumnies and misrepresentations and as its battle cry, the "Elimination of the German Blight." Around the standard of this narrow minded patriot, gathered the cohorts of British industrialism, under the full official sanction and approval of the British Government. German competition in China must be wiped out, and the campaign was launched to oust her from this field where she had an even chance to compete and expand. The denunciation of German methods coming from those whose tactics in China are equally open to just censure, and the tenacity of purpose to prejudice the Chinese mind by the most unfair criticisms and comparisons; the proclaimed intention to replace all German Advisers and instructors by Englishmen, all slowly served to delude them into the firm belief that a widespread British conspiracy in which Government, Commerce and Press were united, had been set in motion to destroy the fruits of their long, hard years of patient application to business in China. The British Government may honestly disavow any connection with the aims and objects of the campaign, and the Association may as honestly repudiate the policy of the bloodthirsty journal linked with its work, and the world will accept their statements, but it is too late. The damage has been done. They must go on with the butchery, forward with the carnival of blood and the orgy of death until a broken nation cries out in agony for quarter. If Germany is guilty of precipitating this horror, there are powerful interests in Great Britain who cannot hide behind the skirts of outraged Belgium, to escape from the charge of driving commercial Germany to the verge of desperation and provoking her into hostilities.

There are many events connected with this phase of the issue, which the Blue Books and similar official publications fail to disclose. The reader will find no reference to China in any of these documents, but the question of the Open Door and the right of equal opportunity to trade in China, is as much a part of this war as the integrity of Belgium, or the independence of Servia, and in due time this side of the question will receive full prominence, and will have to be squarely faced by the great European Powers if the world is to have lasting peace.

With a desire to take the construction of all future railways in China proper, out of international politics, and concede equal participation to the four great manufacturing and lending nations in the development of the country, the Chinese Government early last year determined to organize an International Construction and Finance Company to put these ideas into practical effect. A national scheme of railways calling for the construction of 10,000 miles in the next ten years was designed to be equally divided between Great Britain, France, Germany and America. The plan as designed and developed was immediately accepted and approved by the leading construction firms, fully supported by the strongest financial institutions in their respective countries.

The Company was organized in Paris in April last, the Chinese Government receiving the most favorable terms ever conceded to her in railway work and establishing new principles in financial control and recognition of her sovereign rights and the honesty of her financial institutions. Complete harmony and mutual understanding prevailed between all parties, and the essential basic points were amicably agreed to. In effect, it was a complete success and a signal victory and advance for China, as by the elimination of all politics, terms were secured that had been previously vigorously opposed by the official groups. As the French and German official financial groups were standing

behind their participants in the new proposition, it is a clear indication that they were willing to concede terms other than those deemed "indispensable" by the British Government and its official financial organization. Each country would have received equitable and honorable consideration in the development of China, and the Central Government would have been relieved of the constant pressure and demands for special railway concessions, and permitted to concentrate its energies to the reconstruction of the country. The neutralization of China would have been guaranteed, and its integrity assured during the critical years when the people were undergoing the process of political evolution, and the harassed Government was consolidating its power and bringing the discordant elements into harmony.

What then caused the collapse of this scheme? There were two causes, but the first and most serious bar to its success was the unbending attitude of the British Foreign Office. It said in effect, "We recognize the International Construction Company in principle, but all railway lines which traverse or encroach on the Yangtsze Valley, must be built by the British participant in the Company, and, furthermore, before we can give our support to the scheme, the Chinese Government must approach us through the regular diplomatic channels, and submit the scheme for our approval." In other words, the British Government reserved to itself the right to supervise and approve any national railway scheme for China, and coldly applied the doctrine of the Spheres of Influence, and rejected the principles of the Open Door. As Germany refused to be bound by a "scrap of paper" in regard to Belgium, so Great Britain went back on her pledged word to respect the rights of all nations to equal opportunity in China. The right of Germany and America to participate in any future railway construction in the Yangtsze Valley was ignored. Germany could still retain her footing in Shantung, but America was frozen out in the cold. These facts were duly transmitted through the German and American participants to their respective Governments. The original guardians of the Open Door, who for thirteen years had faithfully fulfilled their trust, however, had been relieved from duty, and their place taken by disinterested and high principled officials who trusted to the binding power of a "scrap of paper" to protect American interests in China. So the American Government did—*nothing*. The German authorities however were deeply concerned, and saw in the attitude of Great Britain only another proof that the door in China was to be effectively closed to further participation in railway development, and that they were to be confined to the Province of Shantung, while the great rich and productive sections of China were to be reserved for exclusive British exploitation. As the British attitude lacked official corroboration, the German Government had no diplomatic excuse for requesting a formal explanation, and owing to its exclusive policy in Shantung had no moral right to enter such a protest. In the meanwhile the murder of the Austrian Archduke occurred, and the evidence implicating Servian officials rapidly accumulated, which set all Austria afire with the passion for revenge. And at this critical juncture, the British Foreign Minister was compelled to openly indicate his policy towards China, in answer to questions in the House of Commons on July 10th., ulto.

"We have not got any special title to the Yangtsze, except that we have already got vested British railway interests in that region, and we hold that we have the right further, to develop railways in such districts, and that new railway concessions ought to be British Concessions."

There are other parts of his speech which indicate that Sir Edward Grey, was honestly endeavoring to find some solution to the perplexing problems surrounding railway construction in China. The problem had been equitably and honorably solved, conceding to British interests all their rights under the Open Door declarations, but the Foreign Office had rejected it a month previous, and at that time held out for exclusive British control in the Yangtsze Valley, and the above quotation from his speech on July 10th, would tend to confirm that he had no intention of deviating from this set policy. If the British Foreign Minister expressed the idea in London that new railway concessions in the Yangtsze, *ought* to be British, it is fair to assume that every means will be taken so that they *shall* be British.

If we now add this fact to our long list of previous

provocations, it is not difficult to honestly imagine just how this speech was received in Berlin. This enunciation of policy absolutely destroyed any lingering hope that the principles of the Open Door would be adhered to by Britain in the future and that the same rigid exclusion enforced by Germany in Shantung would henceforth apply to the Yangtze Valley. America who was most deeply concerned, although fully informed as to the trend of British policy, made no move to request an explanation. The Door had been closed in her face with a bang and a peace loving Secretary of State on whose shoulders rested the responsibility of guarding the Door, refused to take notice and went ahead preparing his twenty second peace treaty. Disinterested and prosperous America could afford to ignore her exclusion from China, and see her place as guardian of the Door, taken over by vigilant and aggressive Japan. American manufacturers do not need the Chinese market—not now. We sacrificed our national honor; but what is honor amongst friends anyhow.

These are facts that have been hidden by both sides. As people gather the full meaning of all that these truths bring home to their minds, there will have to be a readjustment of opinion.

What do all these truths convey to us? What is the great fundamental principle involved in this epoch making war of the nations? The chastisement of Servia, and the integrity of Belgium all fade into insignificance before the vital, all important basic commercial issues. And although Germany created the precedent in Shantung, and has violated the spirit of the Open Door agreements, in her rigid exclusion of other interests, Americans will feel deeply for her, for it is logical to deduce that just so sure as Germany's commerce is destroyed and her industries wrecked, just so certain will the campaign of hate be turned on America as the next formidable competitor, and despite the ties of blood, and all that we hold most dear, the unappeasable, voracious forces behind the mighty Moloch of British industry, will demand our sacrifice on the altar of their trade supremacy with the same vengeful spirit that is now shown towards Germany. If Germany has erred, so Britain has also sinned. There is no palliation for either side. The way towards peace, is now blocked by the lust for revenge. Germany may be defeated, but the German people cannot be exterminated. The women will remain and will breed sons, the land will be there, and the factories will again hum with the noise of industry. The Germans under any Government will have to live and be permitted the right to compete, and the same qualities of application to work, and the readiness to meet changed conditions will again bring their just rewards. If British writers can desist long enough from their denunciations of German culture and barbarism, and let this thought seep into their minds, and that under similar conditions any other nation would strike blindly to save its commerce from extinction, then perhaps the road may be opened for the declaration of a truce and a discussion of terms of peace. As long as Britain deludes herself and the rest of the world that she alone is the injured party in this war, the dawn of peace will be indefinitely delayed. A mutual understanding of each other's rights is essential before overtures for peace will receive consideration.

This may all prove very disagreeable reading for honorable Britons, but we feel that the truth must be told by some one, and as British writers and the British press are prohibited from a discussion of these fundamental and self-evident facts, the obligation to undertake the unpleasant task devolves upon some friendly American writer. We may be misconstrued and maligned, but we rise above the petty criticism of the bigoted partisan, and appeal to that broad spirit of fair play inherent in the character of the common race. The lives of the best and noblest of Europe are paying for the terrible mistakes of the last decade. Hunger, privation and misery have befallen countless thousands of innocent victims, the national life of Belgium has been extinguished and her peoples scattered broadcast over the world to subsist on the charity of strangers, and it all fades into insignificance before the toll of blood that must yet be exacted, with its aftermath of misery and broken hearts. And with this vision of desolation before us, we again proclaim that we cannot remain mute and disinterested, and permit the campaign whose end is death, to be turned on America, and calmly watch the sapping of Anglo-American friendship, without making one supreme appeal to reason.

There is only one road open for the common race to travel; the broad path of friendly understanding and harmonious intercourse, that leads to permanent peace and good will. If this goal is to be reached, and the world saved the horrors of another crime against humanity, then, Britain must stand shoulder to shoulder with her kindred on the other shores of the Atlantic and play the game in China and elsewhere according to the rules on which our common civilization is founded. Americans can tolerate and overlook any infraction of these rules from other peoples, but they expect and demand from their own kind, a rigid and uncompromising adherence to those ethics and codes of honour which have made us both what we are. Americans will never again go to war with Britain, but there can be a loss of sympathy and respect, which would cause as much commercial injury as though the armies and fleets of both sides were busily engaged in cutting each other's throats. And so with this knowledge, we feel justified in making our appeal to reason. If we be misinterpreted, and find it impossible to continue the publication of an honest and independent newspaper, and that we are to be penalized by the withdrawal of advertising support, for our frank exposition of these fundamental truths and uncontrovertable facts, then we will gladly accept the situation, and return light-heartedly to the farm, conscious of having been true to our principles and the higher code of journalistic ethics which inspires our work.

G.B.R.

EDITORIAL: LONDON AND CHINA EXPRESS

September 4, 1914

BRITISH ENGINEERING IN CHINA

We are glad to learn that, in spite of the great national crisis created by the war, the British Engineers' Association is pursuing its activities with unabated energy. As our readers know, the Association is an organisation formed with the object of overcoming by collective influence the serious and growing obstacles which tell against the interests of British manufacturing engineers—obstacles which the individual firm, however powerful, cannot hope to overcome. It has an immense field for its operations in China alone, and it is to that country that its members are first turning their attention.

We may remind our readers that, in addition to establishing its head-quarters in London, it has sent out to China a Chief Commissioner and an engineer assistant, who actively investigate and report weekly to the Association as to possibilities of suitable contracts and what should be done in the best interests of members. The Chief Commissioner is in frequent communication with the British Legation in Peking, and has already, it is claimed, done much valuable work.

In another matter, too, the Association is to be congratulated upon having succeeded in obtaining the appointment of a British engineer as mining adviser to the Chinese Government, and, we understand, is also endeavouring to secure other kindred appointments. All this is excellent work, and it is laying the foundation for important engineering business with China when the time is ripe. Those who till the ground and sow the first seeds will reap the harvest. With a settled Government in China immense possibilities for trade will be opened up in that vast kingdom, and particularly in the engineering branches. There is no reason why British engineers should not receive a large share of this business. The British Engineers' Association should help them to this end, and therefore should receive their hearty support and co-operation. By its powerful organisation it can get into touch with channels of business which would otherwise not be obtained by its members, and we believe it has already arranged that materials and machinery for certain large contracts shall only be purchased from its members. Finally, it should be borne in mind that it has established cordial relations with the Foreign Office, and has obtained support collectively which it was previously impossible to extend to individual manufacturers. There are, we need scarcely say, keen competitors in the field for the trade of China, and British merchants and manufacturers would do well to leave no stone unturned which will enable them to secure their fair share. What the effect of the great European war will be upon some of those competitors it is too early to speculate yet, but this much may be said, that when peace is once more restored the opportunities for trade should be greater and not less.

THE OFFICIAL CIRCULAR OF THE BRITISH ENGINEERS' ASSOCIATION

JUNE, 1913

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Mr. Douglas Vickers.

VICE-PRESIDENTS:

Mr. T. O. Callender.

Sir Robert A. Hadfield, F.R.S.

Mr. Herbert Marshall.

The Rt. Hon. Sir William Mather, P.C., LL.D.

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Mr. Thomas Woof (*Alfred Herbert, Ltd.*).

COMMISSIONER IN CHINA:

Captain T. C. Fitz-Hugh, M.V.O.

SECRETARY:

Mr. Stafford Ransome.

The Honorary Members:

Mr. Byron Brenan, C.M.G., *Late Consul-General in China.*

Sir Charles Dudgeon, *One of the Commissioners for the Revision of Commercial Treaties with China.*

Sir Charles Eliot, K.C.M.G., C.B., LL.D., *Vice-Chancellor of the Hongkong University.*

Sir Walter Hillier, K.C.M.G., C.B., *Late Adviser to the Chinese Government.*

Mr. Claude Kinder, C.M.G., *The creator of the Chinese Railway System.*

His Excellency Sir Frederick Lugard, G.C.M.G., C.B., D.S.O., *Governor of Nigeria, and formerly Governor of Hongkong.*

Dr. George Ernest Morrison, *Newly appointed Adviser to the Chinese Government.*

The Necessity for the Association.

The British Engineers' Association is an organisation formed for overcoming by collective influence the serious and growing obstacles which tell against the interests of British manufacturing engineers; obstacles which the individual firm, however powerful, cannot hope to overcome. The immediate attention of the Association is devoted to China.

The vital necessity for a great national Association with these ends in view is generally recognised by manufacturers and others who have a knowledge of China. The greatest of all engineering authorities on this subject, Mr. Claude Kinder, C.M.G., the founder of the Chinese Railway System, has expressed his views in the following letter addressed to the Secretary of the Association:—

KELVIN, FLEET, HANTS.

October 5th, 1912.

DEAR SIR,

As I understand that your Council wish to have my views on the subject of the British Engineers' Association, I will speak very frankly on the matter.

I have followed the evolution of your scheme ever since I read the article in *Eastern Engineering* early last year which gave birth to it, and the movement from the start has had my sincere sympathy. In fact, the only objection I have to the Association is that it was not started twenty years ago.

I look on an Association of the sort not merely as an advantage to the British manufacturing engineer, but a **dire and urgent necessity**. For his foreign competitors are not only infinitely better organised than he for dealing with Chinese contracts, but they have shown a faculty for grouping their interests and systematically tackling the Chinese market that British firms have been curiously reluctant to adopt. And yet **nothing but an intelligent co-operation between them to overcome the forces arrayed against them can possibly save the situation**.

Our British engineering firms are always slow to move, especially when it is a question of a combination of interests in any way. But, speaking as one who has had the welfare of British engineering in China at heart for over thirty years, I can only say that unless an effective Association is brought about to combat the severe and growing difficulties, **we shall, in a few years, find business in that country either impossible to get or not worth having**, which amounts to the same.

It is a great satisfaction to me to find that you have got many engineering firms into line on this subject, but if you are to be really powerful, you require four or five times as many Members as you have to-day.

I consider that it is not only advisable for all reputable British engineering firms to back this movement, but that **it is their duty to do so on common sense as well as on patriotic grounds**.

Yours faithfully,

(Signed) C. W. KINDER.

The opinions of Sir Walter Hillier, Mr. Byron Brenan, Mr. Douglas Vickers, Sir Charles Dudgeon and others on this subject will be found in the speeches at the Inaugural Dinner on pages 22 to 37.

The British Position in China.

Before giving particulars of the constitution of the Association it is well to review briefly the situation in China which has caused its formation.

THE VALUE OF CHINA AS A MARKET.

For some years, in spite of the powerful reactionary influences which existed in China until the recent revolution, the progress in that country, and consequently the demand for engineering plant, has been growing with extreme rapidity.

Without going into details, it is well to state the fact that, while Japan, usually cited as the most rapidly progressive country in the world, took thirty years to build 3,000 miles of railway, China has during the last twelve years built no less than 5,000 miles.

Naturally Chinese imports all round have increased very rapidly. During 1910, which was the last complete year of China under the old régime, they were just over £62,000,000 a rise of more than £12,000,000 over the previous year, and £15,000,000 more than Japan's imports for the same period, though 1910 was a record in Japan.

In the year 1911, in spite of the dislocation of trade due to the revolution, the imports amounted to well over £63,000,000.

Chinese engineering imports during 1910, that is to say, *goods which would fall within the range of firms who are eligible for membership of this Association*, were about £10,000,000. Of this total the British share may be put approximately at rather over 40 per cent.

In 1911 they rose to £11,800,000.

China, however, is merely at the beginning of her career as an importer of machinery. With her population of something like 450,000,000, *i.e.*, nine times the population of Japan, and perhaps a hundred times the natural resources of that country, possessing a people in whom the business instinct is ingrained, there is no doubt that under the new régime, whatever form that may take, machinery requirements will undoubtedly expand, for the Chinese will be able for the first time to give free vent to their progressive tendencies. From this it is reasonable to suppose that China will become one of the greatest overseas markets for engineering plant.

A COMPARISON BETWEEN CHINA AND JAPAN.

China to-day, so far as her knowledge of engineering is concerned, is very much in the condition of Japan some thirty-five years ago, but the position of the British engineer in China is by no means as strong as it was in Japan at that period.

In dealing with Japan in the early days British engineers had an immense advantage over all their competitors. This was due to two causes: (1) Japan selected and paid for her own advisers and instructors and financed her own industrial enterprises. (2) She selected, as far as engineering was concerned, British advisers and instructors in nearly every case.

Thus the early Japanese engineers were not only thoroughly imbued with a predilection for British plant, but their engineering education was all absorbed on British lines. The intimacy between the Japanese student and the British professor not only accentuated that leaning towards British products in the early days, but its influence has continued even to this day, though the Japanese now consider that they are no longer in need of European advice.

In China matters are on quite a different footing. There are some eight nationalities vying with each other in lending money to China for industrial enterprises, and clamouring for industrial concessions. Out of these countries Great Britain is the only one who does not couple with her financial assistance some stipulation as to a *quid pro quo* in the way of contracts from China, or that engineers of that nationality shall be employed in connection with the undertaking for which the money is found. China is thus forced to take her advisers from the countries who lend her money except when Great Britain is the lender, and the result is that British influence is being ousted.

DIPLOMATIC AND CONSULAR CONDITIONS.

The foreign diplomatic and consular services in China in every case, with the exception of the British, are leaving no stone unturned to force the trade into their own respective countries. The British Government has been proverbially apathetic on this subject. It is true that of late years it has gone to some trouble to issue reports more systematically and of a better quality than

in times gone by, but the organisation for collecting information, though expensive, is still less effective than that of other Powers. Thus Britain's foreign competitors are better informed. The Government, however, is giving its support to this Association in carrying out its objects in China.

GERMAN AND AMERICAN INFLUENCE ON CHINESE EDUCATION.

Britain's two strongest competitors, Germany and the United States, are making a very serious bid for the education of the Chinese engineer. The Germans, with their model dockyard at Tsingtao, have properly organised engineering works where young Chinese are encouraged to attend and learn thoroughly, not only the German language, but engineering and dockyard practice, and large sums of money are expended in bringing to Germany the right class of Chinese for their engineering training.

German manufacturing engineers on their own account have an Association for dealing with their over-seas interests by means of a resident Commissioner with suitable offices and staff, and have subscribed large sums for the purpose of creating three purely German engineering schools in China. These schools are to be effective nurseries for the German machinery trade. German diplomacy, too, has succeeded in introducing the German professorial element very largely into Chinese native schools.

The Americans have gone a step farther. They waived a portion of their war indemnity against China after the Boxer rebellion on the understanding that the money should be spent in sending over the right class of Chinese to the United States for the purpose of theoretical and practical education.

Both the United States and Germany have their own journals catering for Chinese requirements, and in them engineering and industrial matters generally preponderate. One of these German journals has an English title, and is printed throughout in English.

Thus on the one hand the Germans are spending large sums of money to create and foster a knowledge of the German language by their technical schools, and on the other are utilising the English language to secure trade pending the realisation of their scholastic ideals.

THE BANKING FACILITIES OF OTHER NATIONS.

The German, the American, the French and the Belgian banks are all strengthening the hands of their respective manufacturers in every way. They give facilities for financing large contracts which are unobtainable by British firms from their own bankers, and which constantly tell against British chances of business. One of the most serious results of this policy is that often by the time the British manufacturer hears that an order is to be placed and is offered an opportunity to tender, the whole matter is cut and dried, and the fact that the contract is to be placed with one or other of the foreign firms is a foregone conclusion.

THE ASSOCIATION AND THE MERCHANTS.

It is only natural that in an Association, the fundamental principle of which is that it represents manufacturers only, merchant firms cannot be eligible for membership. The Association, however, fully recognises the valuable and essential part played by the merchants in China and elsewhere in the conduct of successful engineering business, and attaches great value to their sympathetic co-operation with its members.

It should be clearly understood, therefore, that it is no part of the business of this Association to work against the merchants or to interfere with their trade or to discourage its Members from dealing with them. The great object of the Association, in fact, is to increase the trade between China and Great Britain, and thus to strengthen the relations between the merchants and the British engineering firms.

The Influence of the Engineering Industry.

There is an immense amount of dormant influence in the engineering industry of this country, comprising as it does firms with a collective capital the magnitude of which can be gauged by the fact that the wages paid in this industry amount to over £100,000,000 annually. Such an industry, if adequately organised for the purpose of overcoming the obstacles which

stand in its way, possesses the power to advise the Government authoritatively on matters which concern engineering interests and to insist on those interests being raised above the sphere of Party politics.

In like manner it has the power to insist on fair treatment from the banks, the shipping and railway companies and others whose existence is largely dependent on the patronage of the engineering industry. *Until now this great power has never been made use of for the purpose of increasing British engineering business.*

It is the purpose of the Association to transform that dormant influence into an active force to be utilised not for the benefit of any individual manufacturer, but for that of the British engineering trade as a whole so far as it is represented by the Members of this Association. Consequently, it is to the direct interest of every bona fide manufacturing engineer or maker of engineering accessories to join this Association and support it in every possible way.

THE POSITION OF LARGE AND SMALL FIRMS.

Certain firms have expressed the opinion that the larger firms will reap a greater proportionate advantage from this Association than others, but such is not the case. It is only natural that those firms who spend a great deal of money in China, and either possess their own branches or representatives, should profit thereby. But the smaller firms who have no such arrangements will, by joining this Association, have the inestimable advantage of gaining a knowledge of the conditions of trade in China, and, either in conjunction with other firms or otherwise, will be in a position to secure trade which they cannot hope to get without joining the Association.

The fact that a firm does no direct trade with China makes it none the less necessary for that firm to join the Association. The best means of securing indirect trade with China is to assist those British firms who are endeavouring, through the Association, to secure the trade for this country.

It is in order to give all eligible firms an opportunity of joining that the annual subscription has been placed at a low figure.

The Scope, Objects and Constitution.

INCORPORATION UNDER A BOARD OF TRADE CERTIFICATE.

The Association was formally incorporated on April 26th 1912, under a license from the Board of Trade, and is now carried on under the Companies Consolidation Act, 1908. Consequently the liability of its members is limited. It is not a trading or profit making concern and the privileges of all its members are identical.

For the time being the Association's attention is directed exclusively to China, as that country is the one where British engineering interests are threatened more than in any other. But as soon as the membership warrants it, the Association's influence will be extended to other parts of the world where British engineering interests are menaced.

In order to avoid conflicting interests the membership is strictly confined to actual manufacturers. *The Association is unconnected with any business concern.* Its policy is to promote the interests of its members as a whole, and *not to interfere with their existing business arrangements in any way.*

OFFICIAL RECOGNITION BY THE FOREIGN OFFICE.

The Association received the formal recognition of the Foreign Office on December 20th, 1912, and its status is recognised by the Chinese authorities. *The British Minister in Peking has been instructed by the Secretary of State for Foreign Affairs to give his official support to the Members of this Association who may be travelling in China, and to instruct the British Consuls throughout China to do the same.*

THE OFFICIAL DESIGN.

The distinguishing design or "chop," reproduced below, has been adopted by the Association, and lodged with the Consul-General in Shanghai. It is used by members of the Association in connection with their Chinese business for purposes of

identification, either on their letter paper, or visiting cards, or as name plates on their machinery. It rests with the Members of this Association to cause the Chinese to regard this design as a guarantee of good quality as well as of the British origin of the machinery on which it appears, and of fair treatment by the firms who use it.

The Chinese characters in this design represent the equivalent in Chinese of "The British Engineers' Association." Written and pronounced in English the Chinese title is "Ying Kuo Chih Tsao Shih Hui."

THE GOVERNING BODY.

The Association is governed by a Council consisting of a President, five Vice-Presidents, and not less than fifteen or more than thirty ordinary members of Council, elected annually from all the members of the Association.

An Executive Committee carries on the active business of the Association. The Executive Committee is elected by the Council from among its own members.

The Association is fortunate in having seven of the most eminent living authorities on China as Honorary Members and ADVISERS.

THE ASSOCIATION'S WORK IN CHINA.

The work of the Association in China is carried on by a resident Commissioner or official representative. His headquarters are in Peking.* He is in close touch with the other business centres of China by frequent personal visits and through the agency of correspondents in such places.

The filling of this position required a great deal of care on the part of the Council, as it was essential that the Association's Commissioner should not only have a thorough knowledge of the Chinese language and methods, but should also be intimately acquainted with high Chinese officials and with the officials of the British and other Legations. The Association has been fortunate in securing the services of a gentleman who possesses these qualifications in a high degree.

The duties of the Commissioner may be classified in the following manner:—

(1) To gain an inner knowledge of all those matters which affect British engineering interests and to keep the Association promptly and accurately informed on these subjects.

(2) *To use his influence and that of the Association to secure, as far as possible, British advisers and instructors to the Chinese in engineering matters.*

(3) To know how contracts are to be given out and to influence buyers in favour of Members of the Association.

(4) To get the names of Members on the Government and other lists in connection with contracts.

(5) To make it clear to the Chinese purchasers that they will be treated fairly by Members of this Association and that its Members are capable, between them, of supplying *everything* in the way of engineering plant that China may require.

(6) To make full use of the fact that the Association is formally recognised by the Foreign Office.

(7) To introduce Members who may be travelling in China to officials or any one who can help them to secure business.

(8) To be constantly on the look-out for young Chinese who are destined to be engineers and are likely to occupy good positions so that they can be trained under British influence either in China or Great Britain.

The Commissioner is not entitled to give any advice or assistance to any one, even if an applicant for advice purports to be the agent or representative of a Member, unless he possesses credentials from the Association.

THE OBJECTS.

The objects for which the Association is established, as set forth in the Memorandum of Association, are:—

* The Commissioner, who is at the present time (April, 1913) on a visit to England, will return to China in the course of a few months.

- (1) *To promote and protect the general interests of British manufacturing engineers.*
- (2) *To consider all questions connected with such interests.*
- (3) *To promote or oppose legislation and other measures affecting such interests.*
- (4) *To collect and circulate statistics and other information affecting the general interests of British Engineers and to diffuse amongst its members information on all matters affecting such interests.*
- (5) *To support the British Government, bankers, financial corporations, shipping and railway companies, and any other organisations in promoting the general interests of British manufacturing engineers.*
- (6) *To watch and report upon the methods and progress of foreign competitors in Asiatic and other markets and to suggest methods of counteracting foreign influences.*
- (7) *To encourage the predominance of British technical instructors in Asiatic and other schools.*
- (8) *To encourage technical colleges and schools in Great Britain to give facilities for Oriental and other students, and to establish or aid in the establishment of technical schools abroad for the furtherance of the objects of this Association.*
- (9) *To aid by advice, co-operation, donations or otherwise any individual or concern who is able to promote the objects of this Association.*
- (10) *To invite members of the Association to give facilities for the introduction into their works for varying periods of Oriental and other engineers or engineering students.*
- (11) *To endeavour to make the English language the recognised medium for the transaction of all engineering business.*

THE FUNDS.

The funds of the Association are derived from the subscriptions of members and entrance fees. The first 200 members will be admitted without an entrance fee.

The annual subscription for the time being has been fixed at Ten Guineas, which it is estimated will provide the funds necessary to enable the Association to carry on its work efficiently.

Of the first applicants for membership, *two hundred "Original Members,"* taken in the order of the priority of their application, have the advantage of securing full membership from the date of election for three years on payment of a subscription of Twenty-five Pounds.

The whole of the income of the Association will be applied solely towards the promotion of the objects of the Association as set forth in the Memorandum and Articles.

THE QUALIFICATIONS FOR MEMBERSHIP

Article 4 provides the following qualifications for membership:—

"Candidates for admission as members must be approved by the Council and must be bona fide British manufacturing engineers or bona fide British manufacturers of articles accessory to engineering plant other than those whose interests in foreign manufactures or otherwise might be antagonistic to the objects of the Association, and must be individuals or incorporated bodies. Any unincorporated body or firm falling within the above definition if approved by the Council may have the privilege of membership, meaning thereby the right to nominate any one of its members to be a member of the Association as its representative. All corporate bodies must be represented by either a Director or other responsible official properly accredited and not under 21 years of age. Such representative shall while thus accredited be entitled to all the rights and privileges belonging to membership. Any member ceasing to hold the necessary qualifications as defined above shall ipso facto cease to be a member of the Association and shall forfeit all rights of membership."

The fact of a firm possessing engineering or other works or being interested in such works in Great Britain does not in itself qualify that firm for membership, nor does the possession of engineering or other works outside Great Britain necessarily disqualify such firm from membership.

The essential point which will determine the qualification is whether in the opinion of the Council the applicant for membership has no foreign interests or connections which are detrimental to the interests of the Association.

THE RETIREMENT OF MEMBERS.

Article 16 provides for the retirement of Members as follows:—

"A member shall, if he wishes to retire, give a written notice not less than one calendar month before the expiration of the year of his wish to retire, or he will be liable for the subscription for the ensuing year. Subject as aforesaid, any member may retire at any time on giving one calendar month's notice in writing."

The Immediate Advantages of Membership.

The "Objects of the Association," on pages 16 to 18, convey on broad lines the advantages which members will eventually derive from the Association.

It is only natural, however, that the realisation of some of those objects must be the work of time and of effective organisation and management when the Association has attained a full measure of support.

The benefits which members will derive from the Association forthwith may be summarised as follows:—

- (1) Members receive at frequent intervals Reports on matters which affect their business interests in China. These reports are issued without the delay which is incurred in the issuing of Government information, and they are untrammelled by those restricting influences which generally rob Government reports of their practical value. They are issued *only to members*. This information alone is worth the annual subscription of Ten Guineas.
- (2) Members can obtain, through the Association in London, first-hand information on specific subjects from the Association's Commissioner in China.
- (3) Members who are sending representatives to China can obtain from the Association credentials which will enable them to make use of the Commissioner's services and any other facilities in China which the Association can afford them for the furthering of their business.
- (4) *As the Association has the official recognition of the Foreign Office, it can obtain for its Members the support of the British diplomatic and consular officers throughout China.*
- (5) Members who wish to estimate for a particular contract in China, but have not a permanent representative of their own, can be put in touch with technical men on the spot who can negotiate the matter on their behalf.
- (6) Members can by collective action control the conditions of tendering both in the Home and Foreign Markets. Thus objectionable clauses in specifications can be successfully combated.
- (7) Members are notified of any important Chinese who may be in Europe in connection with engineering contracts.
- (8) Members are warned of undesirable business connections in China.
- (9) Members can have their names, addresses and specialities printed on a list in English and Chinese which will be issued by the Association to the Consuls and the European and native purchasers in China.
- (10) Members who wish to publish any of their documents in Chinese can be put into touch with competent Chinese translators and writers in London.
- (11) Members who wish to train Chinese students in their works as a means of obtaining orders later on, can apply to the Association's Commissioner, through the Association, to find such students for them.
- (12) Members can obtain business from their fellow-Members. There is a growing tendency for Members to place orders with each other, and the Secretary is often applied to for the names of Members who manufacture some particular article.

NEUTRAL THOUGHTS ON THE NEUTRALIZATION OF CHINA

II

THE SELECTION OF ADVISERS

The death of the Honorable W. W. Rockhill, while occupying the position of Adviser to President Yuan Shih-kai, almost coincident with the arrival in China of Dr. Charles W. Eliot's Report to the Carnegie Endowment for International Peace, in which the problem of selecting competent Advisers to the Chinese Government was frankly presented, recalls a subject we have been very loath to refer to for fear of being misinterpreted. The occasion for a further presentation of certain facts surrounding this most important question is however so opportune, and has such an immediate bearing on the welfare of China, and the rights of all nations to legitimate participation in the development of this country, that we feel fully justified in reviving the question.

In the May, 1911, issue of *THE FAR EASTERN REVIEW* appeared an article entitled "Foreign Advisers in China," based on Mr. J. K. Ohl's correspondence in "The New York Herald," which faithfully reflected the then pronounced sentiment held by prominent Chinese against the employment of Foreign Advisers at Peking. The article was inspired by the situation arising from the reluctance of the Chinese Government to accede to the demands of the Quintuple Banking Group for the appointment of a Financial Adviser in connection with the loan then under negotiation. At that time, or a year previous to the Revolution, the Chinese Government held very decided and well founded views on this subject, as the result of actual experiences.

As the Chinese had never been able to get their thoughts on these matters faithfully presented to the world through the medium of European journalists, they freely expressed their side of the case to a disinterested American correspondent, hoping that through this channel the world might learn the real motives impelling them to resist the demands of the Groups. The names of the high Chinese officials whose words were quoted in this article, for obvious reasons were withheld. Mr. Ohl's comments and the additional facts presented by the *FAR EASTERN REVIEW*, were therefore construed as only another example of national bias.

The Chinese censored and condemned the policy of Sir Robert Hart, because in all the years he controlled the administration of the Customs, not a single Chinese was ever permitted to hold a position of responsibility, where he might have acquired a training and attained the qualifications to direct other official institutions. Sir Robert Hart advocated the appointment of foreigners to all influential posts, ignoring the legitimate right of competent Chinese to hold positions of trust in a service of their own country, and so indirectly retarded the progress and development of China, at a time in her history when it was essential for her national preservation, that her sons should be given every opportunity to practise and learn the administrative methods of the West under the sympathetic guidance of foreign experts. The Chinese maintain that if Sir Robert Hart, and the foreign Governments, had confided a little more in their honesty, and demonstrated in a practical manner some of the friendship referred to in diplomatic intercourse, and had permitted a few Chinese officials to co-operate in positions of trust, the experience thus gained would have been of inestimable value at the present time, when China so urgently requires men of ripe experience to guide her affairs.

The precedent established by the Customs Service led the Chinese not unnaturally to believe that the employment of foreigners in any official institution of the Government meant eventual foreign control of these institutions. If Sir Robert Hart had permitted the Chinese to gradually occupy responsible positions in the Customs, and had built up the Service with the idea of restoring the control eventually to its rightful owners, instead of acting on the assumption that the collection of its own Customs

duties was something China could never successfully perform the Chinese would have always revered his memory. As it is they feel very bitterly his lack of confidence in their integrity. Although his fellow countrymen may fairly resent any uncalled-for criticism of Sir Robert Hart's splendid life work, or insinuations against his motives, they must be prepared to face honest discussion of his methods, and the inevitable verdict of dispassionate historians on the action of the foreign Powers in converting a distinctly Chinese national institution into a foreign official bureau, in which the Chinese themselves were debarred from positions of trust. "As long as British trade predominates in China, the Inspector General of Customs must be a British subject," and inferentially this gentleman must be approved by the British Government. There is no resentment on the part of Americans to the application of this policy, in fact the American Government concurred in it as the most equitable solution to a very serious problem. At the time this promise was exacted from China, the intrigues of other Powers to have their own nominees approved as the successor to Sir Robert Hart, constituted a serious menace to the stability of this splendid international organization. In fact, if the British Government had not taken this decisive step, with the full approval of America, the Service would have eventually been exclusively Teutonized, as a scheme having this object in view had been presented to the Chinese Government. Other Powers also entertained similar schemes. So in presenting these arguments, there is no national feeling involved, as Americans fully approve of the wisdom of this step, as the only effective safeguard for the preservation of the efficiency and international character of the institution.

The practice of excluding competent and honest Chinese from responsible administrative positions that would fit them by experience for other important posts in the Government, and so hasten the day when the country can stand alone, is manifestly not only grossly unjust, but a harsh and unnecessary reflection on their capability and integrity. No matter what arguments are advanced by the foreign bondholders to defend such a palpably stern policy, it is only human nature for the Chinese to chafe under this imputation on their character, and bitterly resent the virtual seizure of the most important financial department of their Government. In view of the perpetuation of this scheme of exclusion, are the Chinese justified in believing that this department will never be restored to them? If they cannot be trusted and treated with confidence and permitted an opportunity to prove their integrity and worth, can they be censored if they incline to the belief that there is no use trying to satisfy the foreign creditor with his armies and battleships to support his unfair demands?

If the integrity of China is to be preserved, and the sovereign rights of the Chinese Government are to be respected, and China is to be permitted to solve her many problems without fear of aggression, or in plain words, if China is to remain China, does it not signify that eventually she will be able to pay her obligations, and resume control of her own affairs? Or, let the proposition be put this way: as all the Powers have solemnly declared to maintain the independence of China, does not this imply that the control of the Customs must eventually be restored to the Chinese Government? Then it is only fair to ask, what is the objection to the employment of skilled Chinese officials in posts of importance and responsibility in the Customs? If the Foreign Powers are sincere in their protestations of friendship to China, and are imbued with an honest desire to assist the perplexed and harassed Chinese Government to surmount its difficulties, to stand by her with patience, forbearance and hope, why could not the word

be passed to the present Inspector General of Customs to initiate a new policy in which Chinese employees can be elevated to positions of trust and responsibility? Is it not reasonable to suppose that instead of acting dishonestly, these officials will be as zealous of their reputations as the average foreign official, and perhaps more so, as their record for honesty and efficiency in the Customs will determine their chance of being transferred to other important posts? Would not a little human sympathy and recognition of the rights of the Chinese in their own country, contribute towards creating a better understanding between East and West? Could not the Customs Service be utilized to educate and train competent Chinese officials for positions of trust in other financial and revenue departments of the Government, without impairing the efficiency of the Service, or jeopardizing the security of the Bondholders? If they had been given a larger share in the management of the Customs from the start, would not the country be further advanced to-day and the stability of the Government strengthened by the education and training of a large number of competent and reliable officials whose experience would prove a valuable aid in the reconstruction of the country and in the honest and efficient collection of other revenues? China needs trained men, and they must gain the experience somewhere.

With the precedent of the Customs always before them is it any wonder that the Chinese Government fights to the last ditch against accepting any similar conditions for the protection of foreign bondholders, which may be applied at any time to destroy its administrative independence in other official institutions? Sir Robert Hart is universally recognized as the best Adviser the Chinese Government ever had, but with all his professed faith in them, all his sympathy and untiring efforts in their behalf, he was at the last, only the official representative of the foreign bondholders, and as such was not permitted to repose practical trust in their ability or integrity by permitting them to occupy positions of responsibility. Although the Chinese recognize his high character and are grateful for all that he did in their behalf, way down deep in their hearts they keenly feel and resent the slight placed upon their national character, and deplore the loss of valuable men who might have pulled the country through the present crisis, had the door of opportunity been opened to them in the past.

And with the example of the Customs ever before them is it any wonder that the Chinese view with deep suspicion and concern any proposition or tendency which might lead to eventual foreign control of any other revenue producing departments?

The Chinese also cite their experience with Sir Walter Hillier as another instance where the Adviser continued to advance the interests of his own country rather than those of China which he was employed to serve. Sir Walter Hillier was taken from the British diplomatic service, and appointed Adviser to the Chinese Government. It was soon noticeable that his services were never called on, and when questioned as to the reasons why they did not avail themselves more freely of his advice, they answered quite frankly, "Why should we?" Whenever a case came up involving the British Government, he invariably talked of "we" and "our Government," meaning always the British Government and not the Government of China, in whose service he was.

These questions have been revived by the publication of President Eliot's Report to the Trustees of the Carnegie Peace Endowment. President Eliot spent several months during 1912 in the East conducting a careful examination and inquiry into those fundamental causes and questions which make for national unrest and ultimate strife, and was given exceptional opportunities for frank and personal discussions of important subjects with the leading statesmen of China and Japan. Dr. Eliot soon sensed that China needed competent foreign advice to guide her rulers through this crisis of her history, and discussed this matter with the Revolutionary leaders at Nanking, and later on with President Yuan and the heads of the Government at Peking. Dr. Eliot cannot be accused of having any object in view, by an open and honest presentation of the facts as he found them, except the one of finding SOME ROADS TOWARD PEACE. Dr. Eliot makes several references to the problem of Advisers, which are herewith reproduced in full:—

The Imperial Maritime Customs Service

"At Shanghai I had the best possible opportunities to appreciate the great service which Sir Robert Hart rendered to China in organizing and carrying on for more than a generation the Imperial Maritime Customs Service. This great Service not only collected the customs, and applied the receipts to the payment of the interest on and the reduction of Chinese public loans, but also carried on the lighthouse and day-mark service for the coasts and rivers of China, and planned and executed many important conservancy undertakings in and near the treaty ports.

"At the same time, I came to understand why Chinese administrators are resentful toward the Customs Service, and use the Service as an illustration of the inexpediency of committing Chinese affairs to foreign executive officers, no matter how honest and competent they may be. The Republican officials to-day point out that the Imperial Customs Service in more than forty years has not trained a single competent Chinese official for service in any high office under the present Government. They point out that Sir Robert Hart never gave a Chinese any but a very subordinate position in his great Service, all the high and medium posts being filled with foreigners. They remember, too, that the receipts from customs have been, and must be, appropriated under existing treaties to pay the interest on loans which China was forced to make in order to pay to Western powers war expenses and indemnities.

"The Republican officials had another reason for hesitating to employ foreign advisers in the many departments of the government where their services would be convenient, if not indispensable. They cited numerous instances in which the Chinese government has selected and employed foreigners who have turned out to be unworthy and unsuccessful; and they averred that Chinese administrators are seldom competent to select the right kind of foreign advisers, being often unable to discriminate between the good and the bad, either on personal interviews or by inquiry into the careers of the candidates. They allege an inability to understand Westerners analogous to the supposed incapacity of Westerners to comprehend Chinese manners, ethics, and modes of reasoning. They object also to accepting foreign advisers on the nomination of foreign governments, because of the jealousies and prepossessions which such nominees are wont to represent."

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"The members of the Cabinet with whom I talked admitted frankly that they were unable to man their own departments with competent Chinese. They admitted that the only way to get the work of the government properly done during the next ten years was to employ a considerable number of foreign experts; but almost in the same breath they would say that they could not venture to recommend that foreign experts should be employed immediately in their own bureaus, lest this action should give offense to their constituencies, the secret societies which had organized the revolution. They also urged that the experience of the Chinese had been very unfortunate with experts recommended to the Manchu government by Western governments, that many persons so recommended had proved not to be experts in their several lines and not to be trustworthy, and that the experts so appointed had continued to serve the foreign governments or foreign corporations to whom they owed their appointments rather than the Chinese government, in whose pay they were. They maintained that these objections held against foreign experts employed in industrial and transportation enterprises in China as well as against experts employed by the Chinese government. They maintained that foreign experts ought to be employed by the Chinese government itself without the intervention of any foreign government, and should be wholly devoted to the service of China; but they added that they did not know how to find such experts. They alleged that even Chinese gentlemen educated in Europe or America could not judge the character and capacity of a European or an American by his aspect and speech, and that they were not in position to conduct themselves careful inquiries into the antecedents of experts proposed for Chinese employment. These views

were repeatedly expressed to me during my stay at Peking near the end of April."

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"To this end of successful borrowing on reasonable terms, two measures are essential, (1) the central government must obtain by methods of taxation that have approved themselves to Western scholars and statesmen a sure and ample income, (2) this income must be expended honestly and effectively on objects and in methods which have proved themselves in Western governmental administration. The pressing problem then is—how can these two measures be put into effect with due regard to the honor and future independence of China? It is not reasonable to expect that the existing Chinese official class can furnish men competent to set up a new system of taxation, collect a stable revenue, and then spend that revenue effectively in the ways which have proved to be good in European and American experience. Foreign advisers must obviously be procured, and given authority enough to convince Western capitalists and governments that an adequate national income is to be secured, and that it is to be spent in a modern, scientific way. Having learnt that the Provisional Republican Government felt great difficulty, first, in selecting foreigners by its own unaided action, and secondly, in accepting them on the nomination of foreign governments, I suggested that the Trustees of the Carnegie Endowment for International Peace constitute a body competent to nominate to the Chinese Government advisers on many subjects; because it is a permanent, impartial, disinterested, and respected organization, which, though composed exclusively of Americans, has a broad acquaintance with scholars and experts of all nationalities. At the close of a long conversation, Colonel Tsai asked leave to translate into Chinese a memorandum I had with me in which the above points were concisely stated. He translated it on the spot, and assured me that he would bring it to the attention of the Premier and the President."

"On the next day at a luncheon given by the Prime Minister to me and many members of the President's Cabinet, I had long conversations with Mr. Tong and other secretaries, mainly on the governmental and educational affairs of the Republic; and after the luncheon the Premier took me to an interview with President Yuan Shih-kai, the only other person present being Colonel Tsai, the President's interpreter. At this interview the conversation related exclusively to the difficulties under which the Republic was laboring, and to the best methods of procuring foreign advisers, Mr. Tong remaining silent during the whole conversation. The difficulties about the employment of foreign advisers were of two sorts. On the Chinese side, it appeared that China had had in times past many unfortunate experiences in endeavoring to employ foreign experts, and that the experts selected by foreign governments were very apt to put the interest of their own governments and people before Chinese interests. It was made clear that China needed the services of many foreign experts, but that they must be experts who were primarily servants of the Chinese government, and not of their respective nationalities. I conveyed to the President my suggestion that the Carnegie Endowment for International Peace could be of service to his government in regard to the selection of experts. This interview with the President was conducted with no more ceremony than obtains at the White House, Washington, and with the same kind of courtesy."

The Selection of Foreign Experts

"A few days later, when I had returned to Tientsin, I wrote a letter to Mr. Tong Shao Yi in which I stated at length the method of avoiding all these difficulties concerning the employment of foreign experts by the Chinese Government, through resort to the Trustees of the Carnegie Endowment for International Peace as an impartial and permanent body competent to select foreign advisers for service under the government of China. This letter was delivered by messenger to Mr. Tong Shao Yi at his office in Peking; but a few weeks later Mr. Tong retired from the Cabinet and left Peking.

"On hearing in July that Dr. George Ernest Morrison had been appointed Adviser on Foreign Affairs to President Yuan Shih-kai, I sent him a copy of my letter to Mr. Tong Shao Yi; and in the following January Colonel Tsai sent me through Minister Calhoun and the State Department, Washington, a cablegram requesting on behalf of the President that the Trustees of the Carnegie Endowment for International Peace nominate an American professor well qualified in constitutional law and possessing a special knowledge of the French Constitution as an adviser to be attached to the Chinese committee entrusted with drafting China's republican constitution. The favorable action of the Trustees on this request was recorded some months ago in the minutes of meetings of the Trustees of the Endowment and of the Executive Committee. The Professor selected, Professor Frank Johnson Goodnow of Columbia University, reached Peking early in April, 1913.

"There can be no doubt that within the last twenty-five years, among her widespread people possessing little means of communication, China has developed in her educated class an intense feeling of nationality. The revolution has proved that this sentiment of the educated class is capable of being communicated to millions of the uneducated, and, indeed, has been. The Chinese have now a full sense of Oriental nationalism, as distinguished from Occidental. They have been roused by the sight of another Oriental race suddenly developing a tremendous force in the international world, and asserting its right to control by force Oriental regions which did not originally belong to it. In short, they have had before them the example of Japan. That example has stirred deeply all the Oriental peoples; and it is impossible to say now how far that influence will extend."

Dr. Eliot fully substantiates the facts which Mr. Ohl and THE FAR EASTERN REVIEW presented in 1911 and again gives to the world the innermost thoughts of intelligent Chinese on the question of Advisers. The Chinese had learned by experience that foreign advisers selected by foreign Governments or recommended by private Corporations were very apt to put the interest of their own Government, or the corporation responsible for their appointments, before the interest of China. Since the time when President Eliot discussed this question in 1912 with President Yuan, how many Advisers have been engaged by the Chinese Government, as the result of pressure from foreign Governments? Is it not apparent that Advisers so selected must necessarily set the interests of their own country above those of the Government which pays them their salary? Is it unnatural for the Chinese Government to refrain from availing itself of the advice of such advisers? The position of official Adviser to any department of the Chinese Government can be obtained under pressure by any strong foreign Government, for one of its nationals, but there is no power on earth that can compel the Chinese to confide in or act on the advice of one thus forced on them. They accept the inevitable, and duly pay the required salary, but the Adviser's usefulness is nil. Of what use then is such an Adviser to either party? He cannot advance the interest of his own country, or contribute to the welfare of China as the Chinese refrain from consulting him. In obligation however to those responsible for placing him there, he must retain the position, and draw a large salary, with the full knowledge that the Chinese resent his presence, but cannot or dare not discharge him. The result is, although well provided with Advisers, China is in the position that she cannot rely on the judgment or counsel of those whose first obligation is to their own country instead of the one who pays them a salary. Can any Adviser whose own Government advocates a policy tending to the impairment of China's administrative independence, give conscientious counsel to China, without proving disloyal to his own Government? In this great crisis in China's history can her Government expect impartial advice from advisers whose countries are engaged in a war which has been extended to Chinese territory?

The first duty of an honorable Adviser is to place China's interests above all else, he must be primarily a servant of the Chinese Government and sympathetically and whole-heartedly espouse its cause, to the exclusion of all others. Like Denison in Japan, Stevens in Korea and Stroebel in Siam, he must work quietly and unostentatiously for the Government which relies on his honest and disinterested counsel.

G. B. R.

STATUS OF THE CHINESE NATIONAL RAILWAY CORPORATION

REPORT SUBMITTED TO THE DIRECTOR GENERAL BY THE TECHNICAL SECRETARY, DECEMBER, 1912.

FOREWORD:

So much misinformation has found its way into print concerning Dr. Sun Yat-sen's railway program; his honesty of purpose has been so virulently attacked and the characters of all connected with him have been so persistently maligned by certain foreigners uninformed of his real motives, that I feel in honor bound to make public and at the same time invite the attention of the authorities at Peking to the exact conception held by myself concerning the legal position of the Chinese National Railway Corporation, and its true relation to the Central Government. The following confidential report on The Status of the Chinese National Railway Corporation submitted after a thorough study and analysis of the various legal roads open for its usefulness, was approved of and accepted by Dr. Sun and his associates as the basis of their future work.

When I joined Dr. Sun as Technical Secretary or Adviser to his organization, I soon realized that the scheme possessed potentialities diametrically opposed to the principles of a representative or republican form of government, and instead followed the old Manchu autocratic custom of conferring vast powers on some favorite official, regardless of the higher interests of the country, and without proper safeguards against his dishonesty.

In other words, the appointment of Dr. Sun Yat-sen to control the financing and construction of all the future railways of China, and the power to employ the national credit at his discretion, could be construed by the unsympathetic as the most stupendous piece of political "graft" ever recorded in history. In fact Dr. Sun held a very vague idea as to his exact position and inclined to the belief that he had been granted a personal monopoly of all future railway concessions, and the way was honestly open for the accumulation of an immense fortune for himself and his associates through the sale of these privileges to foreign capitalists. I perceived that sooner or later the scheme would have to be exposed as a gigantic political job, and determined to resign the position, if I found it impossible to find some honorable solution to the problems presented, and so save President Yuan and Dr. Sun from the ridicule which would follow its inevitable denouncement. I am compelled to bear witness, that as soon as Dr. Sun and his associates grasped and assimilated the finer points involved, and clearly understood their exact legal relation to the President, and their duty to their country, their patriotism rose superior to personal considerations, and they unanimously agreed to my arguments, abandoned the idea of a private corporation, and determined to work in harmony with the President as a loyal and faithful official Commission, and to exert their utmost strength to bring the Central Government into harmonious relations with the Provinces in the question of railways.

My views on this matter adopted by Dr. Sun as the basis for his future program bear full testimony to his patriotism and his loyalty at that time to the President, and had these ideas been rigidly followed out, the great Republic of China would have been more firmly established to-day, with Peking and the Provinces in full harmonious accord through a mutual respect and recognition of each other's rights and responsibilities. It is not too late to mend these matters.

Unless the Provinces are ultimately permitted to co-operate in the construction of, and to participate in the profits of railways within their own borders, the time will come when the resources of the Central Government will be inadequate to act as the security or guarantee for railway loans. It may be said, that this point has already been reached. The foreign Powers have refused to permit the Chinese Government to exercise its sovereign right to devise its own national railway scheme, and are determined to continue to compel compliance with their demands for railway concessions for their own political profit and that China shall pay the bills.

At the present time China is actually compromised under foreign loan agreements to the construction of approximately 8,000 miles of railways. The funds for construction have still to be raised abroad as Chinese Government Loans. This means that the Government will be compelled to borrow the enormous sum of \$400,000,000 gold in the markets of Europe as soon as conditions justify the issues. These loans will be secured on the physical property and earnings of the lines with the guarantee of the general revenues and good faith of the Chinese Government.

In the present state of the finances it is clear that the surplus revenues of the Central Government are woefully inadequate to meet any great deficiency in the earnings of the proposed new railways. It follows as a natural consequence, that if the lines do not pay in the first few years, and if the treasury fails to meet the

deficit, the lines will have to be taken over and managed by the Bondholders, or to avert this foreign control, the Central Government will be compelled to lay forcible hands on Provincial and Municipal revenues to make up the deficiency in the Central treasury. This, in turn, is certain to create wide-spread discontent, and if the temper of the people has not undergone a radical change in the last two years, to open rebellion, to be suppressed again by the slaughter of thousands of innocent people whose only treason would be the defense of their provincial rights.

The insane competition amongst the European Powers for railway concessions in China must soon be brought to an end, or China's financial back will be broken, and her independence frittered away. Japan's mad scramble for railway privileges and loans in China is remarkable at this time, considering her inability to finance the lines herself, and the improbability of being able to obtain assistance from the European markets. It stands to reason that the British and French investors will be in no mood to finance Japanese or Russian railways in China for years to come, as they have their own loan obligations to take care of as soon as conditions permit them to again turn their attention to China. The cupidity of the Powers has created a situation where it will be impossible to carry out their schemes, for it seems plausible to believe that the European markets will not be able to absorb \$400,000,000 gold of Chinese railway bonds in the next decade, except at terms which China cannot entertain. It is natural to infer that if these schemes are carried out at all, they will have to be financed in small instalments by British and French interests, and unless Germany, Russia and Japan can furnish their own funds there will be little chance of their lines being constructed. It is also apparent that owing to the impoverished condition of the treasury the collateral security or guarantee of the Central Government, is inadequate for the entire 8,000 miles. This guarantee may be acceptable for the first few loan issues, but as the loans increase, the value of the guarantee will diminish, and the terms will have to be higher or the loan will fail. There are one or two ways still open for China to save herself. Unless a proper program is outlined and adhered to, a clear path has been opened for the future foreign control of China's railways.

On the other hand there are many unpledged Provincial and Municipal revenues which could be allocated for the initial security to railway loans, revenues which are outside the jurisdiction of the Central Government and cannot be interfered with without provoking internal disorders. The following recommendations to Dr. Sun Yat-sen as to the harmonious co-operation of the Central and Provincial authorities still hold good, and with some modifications can yet be applied to improve the situation. The creation of an independent government railway commission to act as the holding company and mediator between the Central and Provincial Governments so that both sides will equally share the burdens and responsibility and participate in the profits, is one of the roads out of the dilemma. If the present program of construction is followed out, and the 8,000 miles of railways already contracted for are financed and constructed within the next decade, there will have to be some visible increase in the surplus revenues of the Central Government, to admit of the successful flotation of the loans; or, if the loans are floated and the railways fail to earn their fixed charges, and the Government is called upon to make good the deficit from an already depleted treasury, it will have to forcibly seize upon the Provincial or Municipal revenues as the only way to prevent foreign control. This in turn means internal discord and strife.

The reasons for the failure to apply this principle to Dr. Sun's scheme at the outset was due to the difficulty at that time to bring the turbulent Provincial authorities into line. These difficulties do not exist to-day, and the Government could readily and amicably arrange a satisfactory basis of co-operation. The second reason for the failure to apply the scheme, is traceable to the great opposition of foreign interests who desire to control and dictate China's financial affairs, and who stubbornly oppose any relaxation of the prerogatives of the Central Government that might establish the right of the Provinces to a voice in their own affairs. In their inflexible adherence to certain financial principles, the foreign official financial institutions backed by the full weight of their respective Governments, have viewed with stern disfavor any direct provincial or municipal loan in China, whereby independent financiers might break through the ringed fence of monopoly and create terms opposed to their ideas of financial supervision and ultimate financial control. Only by supporting a strong autocratic and centralized government at Peking, having absolute control over the credit of provinces and cities, can the monopoly be upheld and the "indispensable" terms perpetuated. To this determination to maintain at all hazards the centralization of power at Peking for the facilitation of forging the chains on China's independence, is traceable the gradual disappearance of those republican principles created by the overthrow of the Manchus, and the recrudescence of autocratic methods having for their ultimate purpose the strangling of free institutions and the right of the people to a voice in their own affairs. And the perplexed, harassed, trusting and inexperienced rulers at Peking, attracted by the lure of gold, are enmeshed and vainly struggling in the web of political finance, from which there is no escape.

China cannot undertake the financing of any new railways as matters now stand, at least until the present trunk lines contracted for are completed. She has been squeezed dry. The financial markets would reject the negotiations for further loans, until their own schemes have been successfully carried through. There are roads of safety open to China, if she will follow them.

G. B. R.

To the

Director General

Chinese National Railway Corporation,

Shanghai

When President Yuan Shih-kai signed the special Mandate in September last, authorizing Ex-President Sun Yat-sen to organize a Central Railway Company, and to finance and construct railways throughout the country, he also decreed that the sum of Tls. 30,000 per month be appropriated from the revenues of the Railway Board, to defray the necessary expenses of this office. The relation of Dr. Sun Yat-sen and his organization to the Central Government, is therefore in the nature of a commission, appointed by, and deriving its powers and finances from the Government, acting in harmony with, but independently of the Ministry of Posts and Communications.

Dr. Sun established offices at Shanghai, and surrounded himself with a staff of assistants, whose salaries were paid from the Government appropriation. Up to this point, the character of a government commission was duly followed, but on opening the offices in Shanghai, the organization was styled *The Chinese National Railway Corporation*. As no Articles of Association had been drawn up, no shares subscribed for, or any moneys paid in, it is evident that as a Corporation it had no legal commercial existence.

The powers conferred by the Presidential Mandate, being too indefinite to admit of successful negotiations with capitalists for the financing of Chinese Railways, it was decided that a charter amplifying and defining these powers be drawn up and submitted to the President and National Assembly for approval.

The proposed charter grants to the Chinese National Railway Corporation certain broad and well defined rights for the financing and construction of future railways in China, amongst which is the right to build lines by the proceeds of a government loan or guarantee of bonds, subject to the approval of the National Assembly.

The granting of the Charter implies the existence of a Corporation, which is misleading, as the Corporation *exists in name only*. The question naturally arises; if the National Assembly and the President concede a Charter to a Commercial Corporation which does not exist, will it remain legal and binding? Is it legal or proper for the National Assembly and the President to grant such wide powers to a corporation whose Articles of Association have not yet been drawn up, and whose future directors and shareholders are unknown to the Government? What guarantee has the Government that the control of the Corporation will remain in Chinese hands, and how far will the Corporation be permitted to invite foreign subscriptions to its shares? It goes without saying if the National Assembly grants a Charter to a Chinese National Railway Corporation, that body must exist in a corporate form, with a share capital, subscribed and paid up, a Board of Directors, and Articles of Association duly registered according to Chinese law. Is it legal to confer such powers on a Commission which derives its financial support from the Government, or is it possible for such a Commission to delegate these powers to a stock corporation and capitalize the power conferred on it by the Central Government? It appears to me that there is a very important legal point involved which may arise at any time to threaten the legality and invalidate any negotiations which the present Commission may enter into for the financing or constructing of railways. This point is so important, that I believe it my duty to point out the contingencies which may arise in the future, unless some solution to the problem is found.

I accept as a fundamental fact, that Dr. Sun Yat-sen is animated solely by a patriotic desire to benefit his country, and that he has no idea of capitalizing his patriotism or accepting payment for his past services to the Republic, by a monopoly of railway franchises or concessions. In the event of any disaster to President Yuan, he would without doubt be called upon to preside temporarily at least over the destinies of his country. The natural evolution of politics in the new Republic will demand Dr. Sun as a candidate for the Presidency, in which event there is a

possibility of his election. Bearing this in mind, it is well to carefully analyze the situation arising from the President's Mandate conferring on Dr. Sun the power to form a Central Railway company, and what it may lead to unless a careful program is prepared and carried out. We must assume that only the highest patriotic motives influence Dr. Sun in accepting the commission entrusted to him, and that his first idea is the welfare and progress of China.

When I was invited to join this office as Technical Secretary, I had formed the idea from the few conversations with Doctor Sun, that he hoped to finance and construct the lines of his proposed system by the sale of franchises, granting to foreign corporations the right to finance, construct and operate the lines for a term of years, after which they would revert to the government either by purchase or right, or under terms to be agreed upon with the financial syndicates. I accepted the viewpoint that Dr. Sun stood in the position of a man who had secured a monopoly of railway franchises from the government which he was at liberty to negotiate abroad on the terms most favorable to himself and China, deriving a legitimate profit from the result of these negotiations.

It was with this view in mind that I pointed out to Dr. Sun, that before foreign capitalists could be induced to finance a franchise in China, certain essential laws would have to be enacted at once. A National Railway Law and Regulations would have to be passed; the relation between the Provinces and the Central Government would have to be clearly defined in regard to their respective control over railways and inter-provincial commerce, and incorporated into the constitution of the country; the right of eminent domain would have to be enacted into a law, and its observance made compulsory by the Provincial Governments, and the Central Government would have to guarantee the lines against destruction by the people, or in other words provide ample police protection, before foreign investors would risk their money in operating a railway under their own control in China. Dr. Sun seemed to think that these obstacles could be readily surmounted, and that a National Railway Law would be drawn up.

Having in view this phase of the situation, in which the various projects could be built and operated by foreign companies under an out and out franchise, and that the profits of the company would arise from the sale of these rights, either by a lump cash sum or participation in the shares, I readily concurred in the idea of styling the Commission as the Chinese National Railway Corporation. For as I believed, it would be better to have a stock corporation organized for the proper manipulation of the business.

It was also with this idea in mind, that Mr. Donald and myself suggested the necessity of a charter for the company that would amplify and define its powers, and permit it full scope to operate without fear of future governmental interference, except in certain specific instances. In all this, I believe, we have taken the proper course.

I would like to point out, however, that there has been a radical change of sentiment concerning the advisability of constructing the lines under the terms of a franchise. This indicates that the people of China are not yet ready for the introduction of foreign capital for the purpose of constructing railways or other industries along the lines suggested, and the opposition to such a scheme would be so great as to render it impracticable. So in addition to the many essential laws and regulations necessary for the protection of the foreign investor, pending a change of sentiment throughout the country, the hostile attitude of the Chinese people, makes the financing and construction of railways under a franchise absolutely impracticable and impossible of realization.

If we admit there is no hope of constructing railways under a franchise, then we must relinquish the idea of conducting the affairs of Dr. Sun's Commission as a Corporation, and the necessity of a Charter is nullified. This conclusion has been forced on me after a careful consideration of the question as to how the lines can be successfully financed. I pointed out over a month ago that we were losing time speculating on schemes to finance the lines, as we would have to be guided by the attitude of the financiers, and it was necessary to ascertain just where

they stood on the proposition, and what terms, if any, they would consider as a basis for negotiation. We are still ignorant of this point, but as China is not prepared to surrender franchises to foreign capitalists, the question becomes somewhat simplified, and enables us to tread on firmer ground. If we eliminate construction by franchise, it leaves three alternate methods of financing, and to preserve the character or fiction of the *Corporation* we will consider the method that will tend to strengthen that presumption.

As a Corporation operating under a Charter from the Government, the logical procedure would be to file Articles of Association, publish a Prospectus and invite subscriptions to shares in the Corporation, so as to give it a legal commercial standing. The assets are the rights to construct the necessary railways, which can be capitalized at a low figure, with the central corporation as a holding company for the various lines to be built. Let us assume that we form a Chinese National Railway Corporation, with a capital of say \$10,000,000 gold divided into 100,000 shares of \$100 each. As Dr. Sun Yat-sen personally holds the Presidential Mandate and powers, he has the undoubted right to allot these shares as he sees fit. Let us assume that he retains \$5,000,000 in shares for himself or his associates and invites other Chinese officials or capitalists to subscribe to the balance at their par value, thus raising the necessary funds for the prosecution of the many preliminary studies connected with the promotion of any of his separate projects. Let us further assume, that after necessary preliminary surveys and reports on a certain line have been concluded, that a subsidiary company is organized to construct the line, in which the holding company either surrenders the charter for a fixed sum in advance, or transfers its rights for a certain percentage of the shares, profits or otherwise.

Let us assume that a certain amount of Chinese capital is secured in this way, and construction work commenced, and then the company turns to the foreign banks to float an issue of bonds for the further construction of the line. Up to this point it is all clear sailing, but experience tells us that when a private Chinese industrial company endeavours to float a loan or an issue of bonds in the foreign markets, it is almost impossible unless the bondholders are assured control of the property. This the Chinese have not been disposed to grant in the past, and therefore no foreign loans have been made to private companies. Pending the establishment of a proper code of laws which will permit foreign bondholders to enter into possession of the property in case of default, there is little hope that this condition can be changed. In other words, it is impossible for a Chinese railway company to float its bonds in the foreign market *unless guaranteed by the Central Government*. There may be some foreign banks who might entertain the proposition to underwrite the bonds for the construction of a railway for the Chinese National Railway Corporation. In such a case, China would lose more than she would gain. Unless the Corporation has sufficient Chinese capital to make a good start with, the entire cost of creating the property would fall on the bondholders, and the underwriting banks would demand excessive and onerous terms, and a large percentage of the common shares as an inducement to market the bonds, in addition to supervision over accounts, employment of foreign engineer and traffic manager, and representation on the Board of Directors. It is remotely possible that some syndicate of bankers would undertake to finance the construction of a line secured by the bonds of a duly chartered and registered Chinese Railway Corporation, but it is also obvious that in such a case, the latter would have to relinquish control, and concede at least one half the shares to the foreign syndicate. While it might be justifiable under certain conditions, yet I firmly believe that such a deal would not be favorable to China, and would most certainly lead to internal trouble and ultimate cancellation of the Charter. Therefore the price is too high for what may be obtained readily on cheaper and more lenient terms.

If the bonds of a private Chinese Railway Company could be marketed abroad, it is obvious that the Chekiang, Kwangtung, Fukien, Anhui and Kiangsi Railway Companies would have long ago been successful in negotiating a construction loan. These provincial lines already have some miles of line built and in operation, and therefore have some tangible security for an issue

of bonds. Especially is this so with the Chekiang and Kwangtung lines.

We must also remember the position of the Central Government on the question of Provincial loans. The Government has steadily refused to acknowledge the right of the Provinces to contract foreign railways loans, and as a consequence foreign financiers refuse to entertain overtures from the Provinces. For at least three years the Anhui, Kiangsi, Lotung, and Fukien railway companies have been hawking a loan around the commercial and financial firms of Shanghai, well knowing that the Central Government's prohibition rendered the negotiations abortive. Financiers have been willing to accept the Provincial guarantees to railway bonds, providing that the Central Government gave its indorsement or super-guarantee. The Central Government has maintained the position that it would not extend its credit to the Provinces without control of the railways, and as the Provinces could not or would not accede to this, a deadlock has been created. I believe then, that although there is a remote possibility of floating the bonds of a Chinese Railway Company, the terms would be such that the immediate benefits would go to the foreign bondholders and the bankers underwriting the bonds, and as they would insist on control and representation on the Directorate, the profits which otherwise might be expected to accrue to shareholders would probably be diverted to betterments of the line, and other expenses, for as long a period as possible.

The above assumption is based on what might be termed a joint Chinese and Foreign stock company, in which the Chinese provide the franchise, and the Foreigners the money. To raise the funds by an issue of bonds, the Chinese company must surrender a large percentage of the common shares, probably one half, and accept about 80 to 85% for the bonds, or perhaps less. In other words, to obtain the financing of a railway for the Chinese National Railway Corporation, the latter would have to admit foreigners to an equal share in the ownership of the line, and divide the profits with them. If the Government can negotiate a loan at 90 to 95 at 5% for the construction of railways which remain under Chinese control, or obtain the same result by guaranteeing the bonds of a private or provincial Chinese railway company, is it wise to surrender these advantages by financing the lines in the manner outlined? Aside from the fact that the scheme is almost impracticable, and that few, if any, foreign syndicates would entertain the proposition, it is doubtful whether the present sentiment of the Chinese people would favor such a solution. So, if we eliminate the possibility of financing the lines by the sale of franchises, and admit the difficulties surrounding the flotation of a bond issue by a private Chinese railway company, we are compelled to fall back on the only two remaining lines of action open to the Commission. These facts must be carefully weighed and considered, for if we once accept their soundness, it follows as a natural sequence that the powers of Dr. Sun will have to be limited to the functions of a Government Commission. The only other avenues open for the financing and construction of railways are by a direct government loan or by a government guarantee on the bonds of a private or semi official organization, or by the super-guarantee of the Central Government to the bonds of a Provincial or Municipal Government.

As we must accept the fundamental principle that Dr. Sun is inspired by the loftiest motives, and is not seeking personal gain, it is of course impossible to suppose that a government loan can be floated for the construction of a railway, to remain under Dr. Sun's private control or the control of his company. Therefore if it should be necessary to construct any of Dr. Sun's lines under the provisions of a Government loan, the line must be immediately turned over to the Government. As the Director General of a chartered commercial corporation, Dr. Sun could not legally enter into negotiations involving a government loan, even though it was so specified in the Charter, without special authorization to do so in each and every instance, and then only as the agent or intermediary for the Government. Let us assume that the Charter of the so-called Corporation concedes the right to negotiate a government loan for the construction of a railway, it is clear that Dr. Sun could not commit the Government to any such step without special sanction beforehand, and the final

terms of the loan subjected to confirmation by the National Assembly. In other words, it would be impossible for Dr. Sun as Director-General of a private *Corporation* to initiate negotiations for a Government loan for the construction of a railway, except as a special agent of the government, acting under certain well defined instructions.

If we admit the point, that Dr. Sun cannot negotiate a foreign railway loan on his own initiative, or that if Government sanction is given that the line thus financed, must come immediately under government jurisdiction, we must also accept the point that Dr. Sun is in reality a Special Commissioner of the Central Government, delegated to conduct such negotiations, subject to its instructions and approval. If we also admit the point that a government loan may become necessary to provide funds for the construction of certain of the lines suggested by Dr. Sun, the question naturally arises, how can it be carried out by Dr. Sun without recognizing the points already outlined? The natural and obvious answer is, that if a government loan is necessary, the negotiations should be conducted by the Government direct, dispensing with the services of Dr. Sun.

Under normal political conditions this would be the correct position to assume, but the conditions surrounding the financing and construction of railways in China, are extraordinary, and find no parallel in other countries. I am therefore of the opinion that the Central Government can profitably utilize the services of Dr. Sun Yat-sen, in the future negotiation of railway loans, to establish a new and more favorable set of terms, and create a new precedent.

The history of past railway loans to China is more or less familiar, as is also the hard up-hill fight that China has made to secure the most favorable terms, and establish her right to expend the funds without supervision. The history of these negotiations is sufficient evidence of the hold certain financial institutions exercise over China's railway loans. By a combination of circumstances, China was compelled to confine the negotiations for railway loans to certain approved foreign financial institutions, indicated by their respective governments as having a monopoly of official support. It must also be kept in mind that all railways in China constructed by foreign loans, were the outcome of direct concessions extracted from China in the years 1897 to 1900, when China was ignorant of their value. Political pressure secured these concessions for the foreign financial institutions, and foreign Governments exercised their power to maintain a clear field for the favored corporations. Thus China has been compelled to restrict her past railway loan negotiations to a very limited circle of financiers, and the latter, free from the menace of competition, exacted their own terms. China has however secured more and more favorable terms in each succeeding transaction, until in the Hukwang Agreement, the limit of concessions on the part of the financiers seems to have been reached.

There are still some objectionable features in foreign railway loan agreements, and in my opinion China should continue to hold out for the elimination of all unnecessary clauses, until a railway loan is recognized and accepted as a purely financial proposition, without the injection of any clauses restricting her freedom of action in any way. The loan should be secured on the physical property and earnings of the line, covered by a guarantee of the general revenue and good faith of the government.

Especially is it important that all references to the purchasing of materials be omitted, and China be permitted to purchase supplies in the cheapest market. Also that the customary five per cent purchasing commission to the banks be abolished in all future loans. This purchasing commission is in reality an extra bonus to the underwriting banks, for which they give no adequate service in return, and which might be more advantageously expressed in an extra point or half point commission. We may take the case of the Hukwang Loan as an example. The ultimate cost of the line will approximate say \$60,000,000 gold of which at least \$25,000,000 will be expended for the purchase of materials abroad, and on which the Banks will receive a "Purchasing Commission" of 5% or a total of \$1,250,000 gold, and this notwithstanding all large tenders and purchases are to be made only by the order of and through the Chinese Managing

Director. This sum spread over a period of four years, will equal \$312,500 gold per annum or say Tls. 500,000 which could be employed in paying the interest on the loan. In other words the bonus to the Banks, expressed as Purchasing Commission, is roughly equivalent to 2% on the amount of the loan. As the Banks are now accustomed to this extra bonus they will desire the same terms in all future loans. Would it not be better to concede the underwriting banks an extra $\frac{1}{2}$ or even 1 per cent commission in the flotation of the loan, and have them waive the 5% bonus, disguised as a purchasing commission? China would then be free to purchase her material in the cheapest market, and by establishing her own central purchasing department under control of the Director-General of Railways, she would save at least another 2% on the cost of materials purchased abroad. I consider this question as one of the few remaining points to be adjusted in China's favor in future railway loans.

Now the point to be carefully considered is this: The agreement between the official banks known as the Sextuple Group, covers all government loans, and may therefore be extended to include the next railway loan. In such a case the Government may find it difficult to negotiate a new set of terms with the official groups.

The creation of Dr. Sun's railway office or Commission, however, offers a loop hole to avoid the necessity of dealing with the Sextuple group, and of negotiating a national railway loan with independent bankers who might be more inclined to accept new conditions. The time is propitious for the establishment of new terms in railway loans. Heretofore all lines constructed from the proceeds of a foreign loan, may aptly be termed "concession" roads, in which China had no other option than to deal with the recognized official groups. The signing of the Loan agreement for the Lanchow Extension of the Pienlo Railway with the Belgians, leaves the Sinpu concession (held by the British and Chinese Corporation), the Japanese extension to the Kirin Line, and the promise to Germany for the financing of the short sections between the Tientsin-Pukow and Peking-Hankow railways as the only other existing compromises, after which China will be liberated from the influence of the "concession" period and of compulsory dealing with the official groups. For the construction of all other lines China is free to approach other financiers. A new era in railway construction has therefore commenced and China should exert every effort to secure the elimination of all unnecessary clauses to future railway Loan Agreements.

I am also of the opinion that future railway loans should be secured on the physical property and revenue of the lines, with the guarantee of the general revenue of the country, and that no specific Provincial or other revenues should be allocated as additional or collateral guarantee. I am aware that the allocation of Provincial revenues was made in response to public sentiment in order to avoid the hypothecation of the line itself, and its possible management by the bondholders in the event of default. After all, the allocation of this or that revenue, or the hypothecation of the line itself, amounts to the same thing, if the good faith of the Government is taken into consideration. The same reasons as were advanced to shift the security from the physical property of the line to a Provincial revenue, to avoid the possibility of a demand for foreclosure in the event of default, might also be applied to the provincial or other revenue with the same force and reason. In fact, the same question has lately arisen in connection with the control of the Salt Gabelle. The entire problem of security is solely a matter of good faith on the part of the Government, and now that an annual budget is to be drawn up, and revenues and expenditures accurately recorded, there should be no further necessity for the allocation of special revenues as a super-guarantee to a perfectly sound railway loan secured on the property and earnings of the line and covered by the general credit of the Government. The consequences of this policy are probably keenly felt by the new administration in its financial difficulties, as many productive sources of internal revenue are allocated to the service of sound railway loans, when they might have been profitably employed at this time, as security for necessary loans for the reorganization expenses of the government.

I am therefore of the opinion that now is the time to initiate new railway loan terms, and I am furthermore convinced that

these terms could be more successfully arranged through the medium of Dr. Sun's offices than through the regular channels at Peking. First because at Peking, these negotiations would have to be made through some financial intermediary who would expect the customary brokerage fee for his services, thus nullifying the advantages gained by the abolition of the purchasing commission. If a brokerage or promoter's fee or commission is included, this could be returned to the government or form a fund for the maintenance of Dr. Sun's office and staff.

I believe that the best results would be secured by empowering a special deputy to proceed abroad, and open negotiations with independent bankers for the object of furnishing a railway loan based on these terms, and, when the preliminaries are settled, Dr. Sun could come in person, and with full powers from the government, sign the final papers in the name of the Chinese National Railway Corporation. As the corporation is in reality only a Commission deriving its powers from the Government, and Dr. Sun as Director General of the Corporation is in reality representing the Government, I believe that much greater headway can be made, better terms secured, and the payment of all commissions avoided. This appears to me the only legitimate way in which Dr. Sun can engage in the negotiation of a government loan for the construction of any of his projected lines. As the various amendments to the Charter of the Corporation virtually annul its independence of action, and make the organization subsidiary to the government, the foregoing expression of Dr. Sun's position, is in direct harmony with the spirit of the amended Charter.

As I have outlined Dr. Sun's relation to the Central Government in the question of government loans, there remains only one other scheme under which railways can be financed, and that is by the government guarantee of interest on the capital or bonds of a semi-official or private company. When capital is raised in this manner the transaction partakes of the character of a government loan, but subject to a somewhat higher rate of interest. The difference between a loan and a guarantee is that in the former the national credit is pledged unconditionally, and the lender need have little concern as to the character of the work for which it is used, unless the works are pledged as collateral security, while a government guarantee of interest on the bonds of a private or semi-official company, will not secure the acceptance of as low a rate of interest as a government loan. Although the Chinese government may be able to secure all the money it requires at five per cent interest, it may be necessary to offer a guaranteed interest of $5\frac{1}{2}$ to 6 per cent to market the bonds of a private or semi-official company. Therefore a government who can borrow money at a low rate of interest will find it more advantageous to do so, rather than pledge its credit indiscriminately in guarantees to privately controlled companies. The situation in China is however so complex and the construction of railways by a direct government loan surrounded by so many conditions, that the national guarantee of interest to the bonds of a semi-official company, would appear to be one way to solve the problem of future railway finance, and Dr. Sun's corporation would then justify its existence as the instrument through which the line may be constructed.

As the Chinese National Railway Corporation as at present constituted is in reality a Commission appointed by the government, the latter could not guarantee the bonds of this organization without creating great opposition throughout the country, for once the government credit is extended to the bonds of Dr. Sun's organization, the provincial and other companies will demand the same facilities.

Many provincial railway companies having the guarantee of the Provincial governments have unsuccessfully tried to secure this assistance from the Central Government in the past, and if Dr. Sun's Company is singled out as the sole beneficiary of the government's credit the other companies will have legitimate grounds for complaint. Owing to the present condition of China's finances, and the difficulties attending the floating of any large loan for railway construction, I believe that a government guarantee of bonds is one solution of the problem, providing always, that due care and discretion is observed in

extending this credit to such lines as will be most likely to meet the guarantee of interest from their earnings. It goes without saying that a loan for the construction of 1,000 miles of railways approximating \$50,000,000 gold, would be difficult to float at the present time, at terms satisfactory to China. The same object could be secured however, without adding directly to the national debt, by a guarantee of interest on the bonds of a company controlling the rights to construct certain well selected and profitable projects. Instead of binding the government to the construction of a single 1,000 mile trunk line, the initial sections of several trunk lines could be commenced, and pushed through to completion without any strain on the national finances.

Where such lines are within the jurisdiction of the Central Government the latter could utilize Dr. Sun's organization or semi-official company, as the operating company whose bonds would be guaranteed by the government. After the interest on the bonds and other fixed charges are met from the earnings, the surplus profits would revert to the government, minus a small percentage for the maintenance of Dr. Sun's central organization. In other words, the Chinese National Railway Corporation would be the instrument through which the Central Government could readily finance certain guaranteed railways without resorting to a direct loan, and at the same time retain all its powers, and receive all the profits. As a matter of fact the lines so constructed could remain under the actual control or administration of the Railway Board through duly appointed officials, while nominally the control would be vested in the Chinese National Railway Corporation.

In this way the existence of Dr. Sun's Commission as a corporation, could be justified and employed to the advantage of the Government. I am of the opinion however that there is still another line of activity open for the utilization of Dr. Sun's organization in the advancement of China's railway program, one which will harmonize the interests of the Central Government with the Provinces, and lead to a hearty co-operation of all concerned in the development of the country.

There are many private companies holding Provincial concessions recognized by the Central Government, but, owing to their inability to raise the requisite capital within the country, and the refusal of the Central Government to guarantee the bonds of these companies unless assured control of the line, and the disinclination of the companies to cede this last point, a deadlock has been created which neither side seems inclined to break. Naturally so long as these conditions last, no advance can be made, and a solution to the question is therefore imperative for the general welfare of the country.

Here is where the services of Dr. Sun and the semi-official Chinese National Railway Corporation can be utilized for the best interests of the entire country.

My idea is that the Chinese National Railway Corporation either as a government department or as a chartered company, under control of the government, should act as the operating company, for the issuance of bonds to construct the lines, under the guarantee of the provincial authorities and the indorsement or super-guarantee of the Central Government. After the line is built it would be operated under the joint control of the Provincial and Central authorities, working in conjunction with the Chinese National Railway Corporation. After the interest on the bonds and other fixed charges are annually provided from revenue, the profits of the line to be divided between the provincial and central governments, the Chinese National Railway Corporation as the operating company, retaining a small stipulated commission for the maintenance of its central office.

As a concrete example let us assume the following conditions:—It is proposed to construct a railway line from Canton to Wuchow in the government of the Liang Kwang. It is impossible for the people to raise the necessary share capital locally, and although the Provincial authorities may be willing to guarantee a loan for construction, the Central Government refuses assent to this method, and, although foreign financiers would gladly advance the funds on the strength of the Central Government guarantee to the provincial loan, the latter still refuses to give its credit unless it is assured control. As neither side will cede, the much needed railway remains on paper,

the progress and development of the country is checked, and mutual distrust and discord is engendered, which bodes ill for internal peace.

Now my solution to the problem is this. Let the Chinese National Railway Corporation take over the scheme, and act as the operating company to facilitate negotiations for the financing and construction of the line. The Government of the Liang Kwang will guarantee the principal and interest of $5\frac{1}{2}$ per cent on the bonds of the Chinese National Railway Corporation. As this guarantee is inadequate for successful flotation the Government of the Republic of China will indorse the guarantee of the Liang Kwang Government. This insures a ready acceptance of the bonds at the most favorable terms.

This seems to be a fair division of responsibility. We will now consider the other sides to the question.

Naturally the foreign financial syndicate will require some guarantee that the funds will be properly expended and that the line will be constructed within certain specifications. To avoid all unnecessary and possibly obnoxious terms and conditions I believe that the safest course for the protection of both sides is to construct and equip the line under a fixed contract price per mile, with some highly reputable and competent foreign construction firm, who would give a bond for the faithful performance of the work within a specified time. Such a construction firm would also be willing to take their payment in the guaranteed bonds, and finance the lines as needed. This would liberate China from any of the previous obnoxious clauses in loan agreements, save purchasing and other commissions, and insure the construction of the line within a reasonable figure. It will be remembered that a British construction firm agreed to construct the Chinchow-Aigun line at a flat rate of \$40,000 gold per mile, and it is evident that this figure provided for a fair profit. In other words, economical railways can be built in China on easy country at an average of \$30,000 gold per mile, even under foreign supervision. If we assume that the guaranteed line from Canton to Wuchow is constructed under contract at a fixed rate, we have a definite idea of the exact cost, without fear of additional issues of bonds to make up for the possible errors or extravagance in loan constructed lines.

As the line is built, it is turned over to the Chinese National Railway Corporation for working. The operation of the line would be entrusted to a Board of three Directors, representing the Central Government, the Province and the Chinese National Railway Corporation. After the interest on the bonds, and the sinking fund had been set aside from revenues, the surplus profits, if any, would be divided equally between the Central and the Provincial Governments, minus a certain percentage or fixed sum to be mutually agreed upon for the services of the Chinese National Railway Corporation as the nominal operating or holding Company.

The adoption of the above method would be equitable to all parties and remove certain obstacles to China's railway development. The Chinese National Railway Corporation would then justify its name, and be in actuality a true National organization, having only the best interests of the country at heart. Ministers could come and Ministers could go, but the Corporation could continue its existence outside the field of active politics, and insure the continuity of a fixed railway policy, and stand as a buffer or mediator between the Central and Provincial authorities, guaranteeing to each their respective rights and participation in the development of railways and the profits accruing therefrom. Such an arrangement would also prove acceptable to foreign financial syndicates.

It is obvious that such a scheme applied to the construction of several necessary short lines would be more advantageous and of greater immediate benefit to the country than by adhering to the old system of contracting a large loan for the construction of one large trunk line. I would suggest that instead of contracting any further large loan for the construction of a through trunk line, the necessary arrangements be made for the Chinese National Railway Corporation to finance, under the joint guarantee of the Central and Provincial Governments the construction of several sections of the projected trunk systems, and, as each section is completed, the extensions can then be financed either under a continuance of the guarantee system, or by bonding the completed sections or the surplus revenues of existing profitable lines, to raise funds for the extensions.

For example, instead of incurring a large government loan for a 1,000 mile trunk line from Canton to Chengtu, or from

Hankow to Yunnanfu, which would take at least five to six years to construct, let the government undertake the construction of the first sections of several trunk lines, and finance them independently under a guarantee on the bonds of the Chinese National Railway Corporation. This might take the form of the following lines:—

Samshui to Wuchow	100	miles.
Wuchow to Kweilin	145	"
Foochow (Port) to Yenping	100	"
Hankow to Siangyangfu	175	"
Chengteh to Yuanchow	185	"
Nanchang to Kanchow	205	"
		<hr/>
		910 miles.

Here we have a total mileage of 910 miles of railways comprising the initial sections of several essential trunk lines. Is it not better to start these several lines at once, and follow out a definite program for their completion than to build each large trunk system separately from the proceeds of a large general loan? It will be noted that the termini of these lines are accessible for the delivery of materials to enable the commencement of work at once. Instead of concentrating construction to any one section of the country and straining the national credit for the benefit of this particular through line, and delaying the progress of other provinces, it is not better to extend the national credit so that the benefits will be more equally distributed?

If a government loan was floated to construct the above mileage, it would approximate \$40,000,000 gold and under existing political conditions, the negotiations might have to be confined to the Sextuple Syndicate, with a repetition of past terms and the additional "bonus" disguised as a purchasing commission. On the other hand, by splitting this mileage into short sections of guaranteed lines, the longest not exceeding 200 miles, at a construction cost of say \$40,000 per mile or a total of \$8,000,000, it makes possible a large competition among the smaller bankers, many of whom would be glad to compete for a small issue of \$4,000,000 to \$8,000,000 spread over a period of say two or three years. There are many banks, or construction corporations whose independent resources would permit them to compete for the underwriting of such a loan or to take up the construction and accept payment in bonds, whereas a large loan of \$25,000,000 or more would be restricted to the more important banks, most of which are either a part of or allied with the Sextuple syndicate.

If we accept the above mentioned sections as the necessary expression of certain essential trunk lines, and assuming that such a scheme meets with the approval of the central and provincial authorities, it only remains for the different provinces after a careful study, to give the consent and guarantee to the necessary bonds. The Liang Kwang Government would be called upon to guarantee the interest on the bonds of the Samshui, Wuchow and Wuchow-Kweilin lines, a total of 245 miles which would cost under contract say \$40,000 gold per mile or a total of \$9,800,000. If we assume the bonds are marked at 90, with 5 points commission to the Bankers, it would require a total of about \$11,500,000 for finance and construction, and a $5\frac{1}{2}$ per cent guarantee would call for \$632,500 gold for the annual service of the loan, plus the sinking fund after say five years. Even if we assume that the line would not pay this sum, it would not unduly strain the resources of these two rich provinces, or the central government. I feel confident however that at this capitalization such a line would soon pay 10 per cent on the combined passenger and freight traffic, providing of course that the line is under efficient management and the cost of operation is kept down to at least 50 per cent of the gross earnings.

This would provide for the annual guarantee and other fixed charges, and leave a probable surplus to be divided between the Provincial and Central Governments in such proportion as may be mutually agreed upon.

The above scheme may also be applied to the other suggested lines. After the first sections are constructed and in profitable operation they will serve as the security to finance the future extensions without any further strain on the provincial revenues.

Respectfully,

GEO. BRONSON REA,
Technical Secretary.

Shanghai, December 20th, 1912.

THE INDUSTRIAL OPPORTUNITIES OF CHINA

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China by reason of her great size, her undeveloped industrial condition, her industrious and highly intelligent population, her vast potential mineral and agricultural resources, offers to the capitalist seeking a remunerative outlet for financial and creative effort a greater opportunity than any area of equal size in the world, and it is intended in this article to show that of the seventy-three million pounds worth of manufactured goods imported in 1912, China could by reason of her almost untouched supplies of raw material, cheap and efficient labour, in conjunction with modern plants, manufacture at least 50% of the goods she now imports, cheaper than any other country in the world, and if her industrial, mineral, and commercial law was put on a basis with that of other modern commercial powers she could so build up her industrial power, that she could provide the greater part of the East with all the manufactures now imported from Europe and America, and at the same time strengthen her financial and political position, as she could in no other possible way.

To treat China as one country is difficult in the face of the multitude of different climatic conditions, races, languages, products, trade and transportation conditions involved, but as all official figures for her trade are issued for China as a whole and as it is impossible to trace imports after they have left treaty ports, the writer will endeavour on broad lines to show the chief openings that exist for manufacturing goods in every day demand throughout the country.

The following list of articles imported during the year 1912 shows only that proportion of the total imports which could better and more cheaply be manufactured at the point of demand than elsewhere (and does not include any of the articles that are now manufactured crudely for the most part within the country for domestic use), if only for the reason that Chinese labour is on the whole less costly and less subject to strike methods than that of any equally efficient labour in the world.

Cotton Yarns	132,100 tons	value	£8,800,000
Shirtings	10,841,000 pieces	"	£5,850,000
Woollen Goods.		"	£500,000
Brass & Yellow Metal	950 tons	"	66,000
Copper & Copper ware	7,166 tons	"	528,000
Iron, Ironware, & Mild steel	126,800 tons	"	939,500
Lead & Lead Ware	6,020 tons	"	99,315
Steel (rope, bar, plates, tool, cast, etc.)	5,690 tons	"	76,110
Tin Slab.	2,800 tons	"	235,500
Tinned Plates	20,450 tons	"	320,000
Buttons, Brass and fancy	918,000 gross	"	455,000
Cigarettes	4,339,782,000	"	£1,200,000
Coal	1,516,000 tons	"	£1,212,000
Electrical fittings		"	245,000
Enamel ware		"	106,500
Flour	188,500 tons	"	£1,900,000
Glass (window)	205,647 boxes	"	96,000
Machinery (not including sewing machines)		"	781,000
Matches	30,000,000 gross	"	£1,047,500
Paper	28,400 tons	"	518,000
Railway Plant & material (Locos carriages, wagons)		"	555,500
Safes and strong room doors		"	11,480
Looking glasses & Mirrors		"	36,500
Hosiery	1,345,595 doz.	"	184,600
Leather	5,454 tons	"	961,078
Leather (manufactured)		"	58,500
Soap		"	345,000
Stationery		"	138,000
Sugar (refined)	101,075 tons	"	£1,484,500
Tools (hand)		"	31,000
Umbrellas (European)	552,000 pieces	"	54,500
Paint	3,750 tons	"	106,500

These items must be divided into categories, the first, containing those items whose successful manufacture depends either part or wholly on individual enterprise, and the second, containing those items which cannot be successfully manufactured unless the industries are helped and fostered by the Central and Provincial governments.

In the first list matches, clothing, sugar, paper, small brass, copper, lead and other metal ware, small machinery, boots, leather and leather ware, glass, soap, stationery, umbrellas, paints, and chemical products (when such do not depend on minerals for their production) may be placed, whilst in the second list, cotton, wool, iron, steel and coal products, copper, lead, tin, antimony, tungsten, spelter and their allied products and manufactures must be placed, as the source of supply of raw material and manufacture depend wholly on whether the Government in conjunction with capitalistic effort will agree to consider schemes of mining, cotton growing, wool rearing, and general economic development, and will give such schemes their whole hearted support by enacting laws which will allow foreigners to employ Chinese labour and assistance in opening up and laying a solid foundation for the industrial welfare of the republic.

On this industrial development China's future must lie, and if the government persists in its old time conservatism and fear of diplomatic consequences arising out of granting working privileges to foreign capitalists, little will

be accomplished, but as China now possesses in the persons of His Excellency Yuan Shih-Kai, and several of his ministers, men capable of realizing the necessity for helping China to help herself to take the place amongst the nations her people and resources merit, it is to be hoped that some real concrete efforts may be made to this end.

At this period of European history it is especially essential that China should no longer depend on loans, secret agreements, and all the unsound economic means used by the old regime in the past, as a means of supporting herself, as she must realize that all the available capital of Europe will for many years be too much in demand at home to be loaned to her except on terms which will preclude all hope of sound finance.

The chief requisites to manufacturing on a successful scale are (a) Power, (b) Labour, (c) Nearness to market and transport facilities, for raw material to and finished articles from the place of manufacture.

Taking these in their order, China is for the most part amply provided with water power, especially so in the provinces of Kwangsi, Kwangtung, Yunnan, Szechuan, Kweichow, Kansu, and Hunan, whilst in a lesser degree the North Eastern provinces could be made to yield all the power required for some centuries of industrial development. Of the most notable falls in the country those of the Pa Ta Ho in Yunnan are estimated to be capable of producing from 1,500,000 HP to 2,000,000 H.P.; the T'ung Ho in Szechuan of 500,000 to 750,000 H.P.; the Fu-Chiang of 250,000 to 350,000 H.P.; the Heng Chiang of 750,000 to one million H. P., and the Chengtu plain branches of the Yangtze from 1,500,000-2,000,000 H.P.

In Kansu the various streams entering the Hwang Ho both above and below Lan Chow-Fu are alone capable of providing all the power required by industrial Northern China for some generations, and Shensi has sufficient power in the tributaries of the same river which rise in this province. In Kwangsi the head waters of the West river and the Hung-shui rising at elevations of over 6,000 ft. are capable of enormous development, and the same is true of the Wu-Kiang river in Kweichow, whilst several of the streams flowing south in Kwangtung, properly handled could be expected to yield from 150,000 to 250,000 H.P. Taking advantage of these great natural sources of power and using them as hydro-electric units, a distribution of power could be obtained unrivalled elsewhere in the world, sufficient to maintain tractive power for the greatest railway organization likely to exist at any time, and of furnishing light and power to every Fu, Hsien, and Ting city in the adjacent districts.

Coal as fuel for steam power and smelting is found in practically every corner of China from Manchuria to Yunnan and although little is used industrially, yet as domestic fuel it is worked in Yunnan, Szechuan, Kwangsi, Kweichow and Kansu and in other provinces it is worked both for smelting and fuel; the total yield of anthracite for 1912 being estimated at 6,350,000 tons, bituminous 6,100,000 tons and lignite 1,300,000 tons. Lastly natural gas is present in quantities in Szechuan and is at present used largely to evaporate salt from brine at the wells.

LABOR

In a country so large as China it is impossible to give hard and fast statements on this item, but for the most part labor is to be had in good quantity, at all periods, and is docile, industrious, and loyal. On the coast where contact has been established between Chinese and Foreigners for many years, the percentage of foreign taught labor is high, and prices are demanded unknown in the interior, but even in the larger cities coolie labor is seldom worth more than eight dollars (silver) per month, whilst in the interior, four to six dollars without food is the usual unskilled wage.

A larger percentage of the population is highly skilled in masonry, carpentry, iron founding, plastering, woodcarving, brass and copper working, and the Chinese conception of mining, and under skilled European training, the Chinese develop into most capable laborers, whilst such of them as have been trained in the various coastal dockyards have proved themselves the equal of any labor in the world.

The Cantonese especially are distinguished for their high ability in all forms of iron and metal work, and excel when trained as lathemen, fitters, etc., the only draw back, common to most Southern races, being their intense excitability.

In the erection of buildings of all description the Chinese excel as is proven by the fact that most of the European buildings in the treaty ports are built by Chinese contractors.

Although labor unions are unknown as such, guilds take their place, but as a general rule they exercise no detrimental influence on ordinary labor, which, provided it is handled fairly and none of its peculiar customs and manners infringed, can be made into as great and useful a community as any in the world.

Skilled labor is usually worked on contract, or piecework, but the wages of carpenters, bricklayers, masons, metal workers, bridgebuilders, engineers, fitters, and those in kindred trades, vary from ten silver to twenty-five silver dollars per month for twenty-eight days of ten to twelve hours per day, in the greater part of the country.

TRANSPORTATION

At present China's railway system is for the most part projected only and consists of 5,080 miles open and 2,100 in course of construction; and

so far as is now indicated Hankow would seem to be designed to become the chief distributing centre and junction point of the Republic.

What China lacks in Railway facilities, however, is compensated for in some measure by her vast riverine means of communication, most of which is capable of vast expansion if river conservation and dredging works were entered on in an intelligent manner.

Hankow, the terminus of the Peking-Hankow, the Canton-Hankow, and the Yunnan-Chungking-Ichang-Hankow lines, and of the projected Hsingyi-Changsha-Hankow system, lies on the north bank of the Yangtze about 600 miles from its mouth, and affords natural navigation facilities for ocean going steamers up to this point.

The railway lines built and building afford transportation over some 2,480 miles, and the river navigation for all classes of boats up and down the river for another 1,500, while if the Yunnan-Chungking-Ichang line ever assumes to tangible shape another 1,200 miles of line into the Western mineral provinces, discharging at Hankow, will render the position of this port the most important of any in China.

By reason of the proximity of the Wu-Chang coal fields, the Ying-cheng iron deposits and spelter mines, and the Chienshi copper fields, all of which are in Hupeh province, besides the coal, iron, silver, lead, copper, sulphur, antimony, and realgar deposits of Hunan province, Hankow and district is admirably suited for the establishment of metal working, smelting and mining operations of all kinds, there being at present only seven smelting works established, four for antimony, and the balance for iron, the largest being the Hanyang iron works, which is chiefly devoted to the production of railway steel, and kindred products.

In agricultural products, Hankow is the distributing point for an enormous hinterland, and hides, horns, bone, ivory, oil seeds, wheat, pelts and many vegetable and animal products are available here in the raw state, and are at present exported, whilst cotton twist, cotton piece goods, tea, paper, ironware, soap, needles, matches, machinery, fuel oil, cigarettes, buttons, braid, looking glasses, leather, woollen goods, hosiery, and refined sugar are imported.

After Hankow, the next most important and efficient site for development would seem to be Canton, as this city is on an important waterway, which if dredged would give ocean steaming facilities up to Whampoa, besides which it will be one of the terminals of the Canton-Hankow Railway and it is connected with Hongkong by the Canton-Kowloon line. The West, Pearl, and North rivers afford transport to Kwangsi, and the interior points of Kwangtung, whilst the falls above navigable points on all three rivers, would yield all the power required for the industrial development of the area. The coal fields on the Pearl and West rivers are capable of supplying fuel for smelting and steaming, and the enormous iron deposits of Hsin-hui-hsien and Yang-an-hsien already produce pig iron to the amount of £65,000 per annum, and under European management would give Southwest China all the iron, steel, and allied products needed. In addition to the very numerous coal, iron, lime, and soda deposits on their lines of communication, Kwangtung and Kwangsi have valuable deposits of copper, lead, tin, silver, antimony, bismuth, and other economic metals and minerals some of which are now being worked in Chinese fashion but none of which pay to any extent under the present lack of efficiency in knowledge and appliances.

Besides the potential value of her mineral products, Canton is the centre of the S.W. Silk zone of China, and her exports of this product total 25½ per cent of the total Chinese export which amounted in 1912 to £14,283,578, there being 180 modern silk filature plants in operation in Kwangtung province alone.

Sugar, ground nuts, and ground nut oil, grass cloth, matting, paper soap, tea, hemp, indigo, nutgalls, tea oil, wood oil, aniseed, and hides are all produced and exported from the two Kwang provinces, and native factories producing canned fruits, cement and brick, aerated waters, steam engines and fittings, electric light and power, furniture, glass, leather, matches, paper, cigarettes, etc., exist, but by no means cope with the demand for manufactured goods.

In ocean freight services Canton by reason of its proximity to Hongkong has access to the best freight and mail service in the world, and this fact coupled with the native skill of its population of over a million workers, should tend to make this port second only to Hankow in industrial and commercial importance.

Shanghai, in spite of the fact that to-day it ranks first amongst the ports of China in value of its imports and exports, is not so well adapted either by geographical, geological, or distributing facilities for first rank amongst the industrial and manufacturing centers as either Hankow or Canton, and it owes its importance to-day solely on account of the Foreign settlements and industries which must in time when China ranks as a great industrial power lose a great measure of their importance. Kiangsu as a province has few important mineral deposits, and Nanking has all the facilities that Shanghai possesses in the way of transportation, and in addition has valuable iron deposits, which must tend to make the region possessing them of greater value than a mere port.

After the centers already mentioned Tsingtau, by reason of its port facilities, and the railway system at its back, its mineral deposits of coal at Weihsen and Poshan, iron at Kiulingchen, copper and galena at Chaoyuan and districts, alum, gypsum, soda, etc., its cotton, silk, bean oil, ground nut oil, bristles, hides and other products coupled with its healthy situation should speedily come to the fore under fair industrial laws and conditions, as should in a lesser degree Chungking in Szechuan, Newchwang in Fengtien, Nanningfu in Kwangsi, Mengtze in Yunnan, and Changsha in Hunan.

Tientsin might become a center of woollen manufacture and perhaps of cotton, but its climate is against this last, and its port facilities not likely to be much improved.

TEXTILES AND COTTON

Taking the main items of China's needs, the raw material of which are to hand, or could be grown provided the government would afford its aid to the industry, piece goods, cotton twist and allied textiles come easily first in point of value. In 1912 China imported a total value of £21,850,000 of these goods and during the same period is credited with having grown 310,000 tons of native cotton, although this figure must be accepted with caution.

Cotton is grown, or has been grown in Shantung, Chekiang, Honan, Hupeh, Kwangtung, Kwangsi, Szechuan and Kiangsi, but little science enters into the cultivation, and little has been done either to suit the seed to the soil, or to improve the length of staple, or to take advantage of any of the improvements in seed and cultivation brought to light in recent years in India and elsewhere. The present highest average yield per acre is stated by one authority to be 176 lbs. cleaned or 490 lbs. seed cotton, but this figure does not represent the true average value of an acre of cotton over ALL CHINA. In the lower valleys of the rivers in the western plateau cotton is grown extensively mostly by the tribes people, Shans, Lolos, etc. and the average yield there does not exceed 50 lb. an acre, altho the soil is eminently adapted for the purpose. The original seed which was distributed some fifty years ago by the Catholic missions, has grown impoverished for want of renewal.

From careful estimates made in the South-western provinces by the writer it would seem that there is an acreage of about nine million available for the cultivation of cotton, and if irrigation was employed this might perhaps increase to eleven million acres, whilst in the Yangtze provinces and Shantung there is according to the Minister of Agriculture some 16 million acres under cultivation, so that in nine provinces there would appear to be about twenty-six millions of acres, which if properly cultivated, should yield at least 1,529,500 tons of cotton per annum, enough at least to provide China with all the coarser counts of twist, drills, shirtings, jeans, unbleached and other of the cheaper grades of piece goods now imported.

Whilst it is not feasible for China to manufacture the finer counts, she certainly should be able to manufacture those goods enumerated which she now imports to the amount of £13,500,000 per annum, as the climate is humid enough, her work people and labour plentiful and cheap enough, and her natural facilities are adaptable enough as are her cultivators capable to overcome all initial difficulties always provided the government would make industrial laws to foster the growing and manufacture.

Taking the import duty at an average of 3% of the ad. val. of the imported goods which could be manufactured it will be seen that this amount alone equals over 65% of the total central government receipts for the first six months of 1913, and in view of the fact that foreign operatives in America, Britain, and in a lesser degree in Japan and India, obtain greater wages in proportion to output than would be necessary to pay Chinese operatives, the loss of this source of revenue is serious to a country whose whole future rests on its economic industrial expansion.

Hongkong and Shanghai possess cotton spinning works, but depend on imported raw cotton for the bulk of their output, and no organized effort has so far been made to develop the native industry as it deserves. A quantity of coarse cloth made of imported and home made twist in about equal quantities is made in nearly every province in the republic, on wooden looms worked by hand, the output of each loom averaging about three yards per hour of material averaging 23 inches in width, but the appliances for ginning, spinning, and weaving are of the crudest nature possible, and whilst there are 38 Chinese and seven foreign owned spinning and weaving works, now in operation, these turn out hardly 15% of the total cotton manufactured in the country.

Printed goods as well as plain cottons are made by hand in many provinces and on crude cotton printing machines, usually second hand Japanese cast presses, but taking China as a whole no effort has been made to use the natural cleverness of the people or to give them machinery or methods commensurate with the need.

Hankow, Tsingtau, Canton, and Hangchow are especially indicated for forming centers of textile industries, and an investigation of the factors necessary to the success of industrial effort at these points would repay capitalists seeking a really sound undertaking where the rising power of unionism could not disturb the economic development, and where the market was at the door.

WOOLLEN MANUFACTURE

With the advent of Foreign ideas engendered by the revolution, tweeds coat stuffs, flannels, socks, and other woollen goods came into general demand, and whilst the total value of the imports under this head only amounted in 1912 to £500,000 yet the demand is increasing rapidly, and little effort is being made to use the raw wool exported to fulfil this demand.

WOOLLENS

Large tracts of China lie at an elevation of 3,000 feet above sea level and over, and an area equal to 32% of the total is unfitted to grow alluvial crops requiring considerable heat. At present wool-bearing animals, chiefly goats, sheep and camels, exist in fairly large quantities in all the Northern, Western and Southwestern provinces, but in no province has any effort been made to improve the strain, to breed for wool, or to foster the woollen industry. From investigations made by the writer at the instigation of the Yunnan government it was found that whilst the quantity of wool obtainable from the native sheep was fair, the quality was so low that wool exported to London as a trial only fetched 2½d per lb. against the 1/6 to 2/- per lb.

fetched by the Australian cross bred and merino variety. Climate for climate the conditions in much of Western and Northern China are as good as they are in Great Britain, and better than in much of Australia, as water, feed, and space are available in much of Kweichow, Yunnan, Szechuan, Tibet, Mongolia and Kansu. As a by product to the industry, the treaty ports, French Co-Chin China, Tonkin, and Manila import mutton in the form of frozen carcasses to the value of over £2,000,000 per annum from Australia and New Zealand, so that a market exists as much for the meat as the wool, close at hand, and every natural condition combines to make the industry a success provided a properly organized effort is made to deal with the subject.

In 1912 China exported raw wool to foreign countries to the amount of £1,020,000 of which £849,300 represented sheep fleeces, the bulk of which was exported from Tientsin where nine foreign owned cleaning and baling factories carry on operations.

It is understood that the Government of France is making some attempt to improve the breed of sheep in Yunnan with a view of exporting the wool to the North of France mills, but until the central government at Peking can issue definite orders to help the industry it is to be feared that the project will be of little avail.

IRON, STEEL AND ALLIED PRODUCTS

China imported during the year 1912 metals both crude and worked to the value of £1,884,500 and she exported ores, metals, etc., to the value of £2,435,600 of which tin contributed £1,756,711.

For a list of the economic mineral values of the different provinces I must refer my reader to the "China Year Book" for 1914, or other works, and confine myself to stating that iron, coal, lime, gypsum, lead, silver, copper, antimony, mercury, bismuth, nickel, zinc, tin, petroleum, arsenic, plumbago, alkali, realgar, tungsten, wolfram, alum, sulphur, asbestos, and practically every metal and mineral required for the economical development of China are present within her boundaries, in many instances in prodigal quantities.

Of these minerals, coal, iron, tin, and copper are and have been regularly worked for many generations (and in a lesser degree zinc, antimony and silver) by the crudest possible appliances and methods, so that in all this vast area there are to-day but twelve coal, two iron, one tin, and two antimony mines and smelters which can be said to be at all modern in their methods, or efficient in their working.

Although the copper, tin, silver, and iron workings are of great antiquity, the methods employed in mining, smelting, and working the metals has undergone practically no change during the last five hundred years, whilst the land laws, road, land, and tithe taxes, and general land and mineral areas administrations seem designed to frustrate foreign capital, technical aid, or modern appliances being used, and to tax the native worked mine or smelter to the last cent possible; it will be seen that no individual effort to remedy the defects will be possible, and that only by securing the full help of the government in giving China a mining code compatible with her conditions, and in putting down the numerous local abuses that now exist, will it be possible for China to realize the full benefit of her natural resources. With the general expansion of European ideas, the demand for home-made machinery, mining and tool steel, rails, bridge and construction material, small metal wares, locos, tractors and all kinds of material must increase and considering that the dockyards, repair shops, etc., at Hongkong and Shanghai, which use Chinese labour exclusively, and in most cases Chinese fitters, lathemen, engineers, etc., can and do turn out ships, boats, and other engineering products at prices considerably lower than is possible in Europe, it is only fair to suppose that similar works in the interior could, if run on sound commercial lines, especially if they controlled their own mines, at least compete with any manufactured goods entering China from foreign countries.

Already railways to the extent of 8,000 miles have been built or are building, and contracts to construct railways over more than 7,000 miles have in addition to the foregoing been granted; thus it will be seen that the demand for all forms of industrial metal work is bound to increase.

Iron sheets, plain and galvanized, tinned sheets, hand tools, scissors, knives, nuts, bolts, buckles, swivels, house, builders, and general hardware, enamelled hollow ware, steel ropes, cables, pressed iron and tinned sheet goods, iron castings, machine tools, sewing machines, lamps, agricultural machinery, iron, steel, copper and brass wire, nails, brads, screws, etc., all could be manufactured at Hankow, Canton, Tsingtau, and elsewhere to good advantage, but unless the raw material could be controlled and a fair system of taxation devised no single one of these industries could hope to succeed.

Coal to the extent of 15,000,000 tons per annum is already mined, iron ore to the amount of 656,000 tons was mined of which 199,000 tons of ore and 12,500 tons of pig iron were exported owing to lack of manufacturing facilities in China. Zinc ore to the amount of 7,000 tons valued at £16,500, antimony both crude and ore of 13,500 tons, value £102,000, are also exported, and these quantities do not represent 1% of the available production, provided fair laws and equal opportunity for all are granted by the administration.

In China to-day the mining population is as a rule the hardest working, the most down trodden, and heaviest taxed of all yet, in countries like the Malay States where Chinese miners are allowed fair opportunities and are properly governed, results are obtained which are at least as good as those obtained by white miners, and the bulk of the tin produced in Malay is by the work of these miners, smelters, and labourers, who work under climatic conditions unsuitable in many cases for European labour.

COINAGE METAL AND BULLION.

In 1912 China imported gold to the value of £2,427,800 and silver to the amount of £6,837,000 and exported gold to the value of £1,544,000 and

silver to £4,823,000, and copper for minting purposes to the value of £165,000 during the same period.

Of this amount a certain percentage of the gold resulted from ordinary financial operations, but the balance of the silver imported for the year, amounting as it does to £2 million odd could equally as well have been produced in China as imported.

With the exception of the Jehol mines, the silver deposits in China are practically unworked, and although galena ores running as high as 63 oz. per ton have been assayed, an average of over sixty specimens assayed from districts as wide apart as Mengtzu in Yunnan, to Anhua in Hunan, gives 21 oz. in galenas as a general rule. In certain districts, notably western Szechuan and southeast Yunnan, horn and ruby silver are found over fairly wide areas.

Gold is panned in many of the streams which rise in Tibet and flow into and make up the Yangtze, Huang Ho, Mekong, Salween and their tributaries, but in no instance is the work carried on by anything approaching modern methods. Gold in a highly disseminated form is found both in quartz and alluvially throughout northern and North-western China, but the output is almost negligible from a commercial standpoint.

Turning now to items which are capable of being developed either wholly or partially by individual effort, and for which an increasing demand is being felt; refined sugar, flour, leather, and chemical products rank easily first by reason of the universal demand.

SUGAR.

Refined sugar to the amount of 101,000 tons valued at £1,484,000 was imported into China during 1912. Of this the greatest amount is refined in Hongkong, Marseilles, London, and Java. Sugar cane grows in Fukien, Kwangtung, Kwangsi, Yunnan, Szechuan, and in lesser amounts in other of the coastal provinces, and is manufactured in commercial quantities by modern mills at Suitow, Shango, and Amoy in Fukien province. A beet sugar factory is located at Asiho in Manchuria.

Two refineries owned by British houses in Hongkong handle the bulk of the refined sugar used, but as this product is subjected to a tax of 5% plus 2½% Chinese import and transit tax, and as Hongkong has to import the raw sugar from considerable distances, it will be seen that a great opportunity awaits the refinery which shall be established in the interior near the source of production of cane.

In Yunnan on the Pa-Da Ho, sugar cane is grown over about 75,000 acres, and is crushed and boiled by the most crude native appliances, yielding a brown concrete sugar, which reaches the market in the shape of discs about 3 inches in diameter and 1 inch deep. At the point of production this sugar is sold for a cent a catty which works out at about two shillings per 133 lbs. (or about 4/10 gold cent a lb.) and in Kwangsi and that portion of the S. W. provinces where sugar cane is grown the price of the native product rarely exceeds £2.15.0 per ton at the point of supply.

Cane ripens and is cut from April to June, depending on the altitude of the country. Cane has been noted at altitudes varying from sea level to 4,500 ft., and so far as the writer has seen there must be at least 500,000 acres under cane in the five south-western provinces alone. In nearly all this area alluvial means of soil fertilization abound, and if machinery could be used in place of the wooden roller presses, and open cast iron pot boilers, and a white sugar produced in conjunction with light brown its sale would be assured in the district in which it was made, as it is in demand in practically every city and village in China.

So far as cultivation is concerned, the villagers seem to produce at least as good cane as is grown elsewhere, the weak point in the present supply being the refining process which is practically unknown save in Fukien, and in the fact that cane requiring soil fertilization, where this is not provided alluvially, this crop is not now grown, and large tracts of land suitable for cane are devoted to cereals which are often so plentiful as to hardly provide a wage for the growers.

In view of the fact that water power is at least as plentiful as it is in Norway, it would seem possible to provide nitrates cheaply by the process of fixing nitrogen from air as is done in the latter country, which would provide sufficient extraneous fertilization to allow cane being grown wherever climatic conditions allowed.

In view of the nearness of Java, refineries in China could always draw their supplies from there if the local supply could not fill the demand for raw material, and as sugar has now to pay 5% import plus 2½% transit taxes, into China, it will be seen that on even the quantity imported to-day, a great saving could be effected.

FLOUR.

Patent and white flour to the amount of 101,000 tons, value £1,050,000, was imported into China during 1912, coming from America, Australia and Japan chiefly and the total value of flour imported during the same period totalled 226,175 tons, value £1,904,000.

Wheat is grown in nearly every province in China, Manchuria being credited with a production of ten million bushels yearly, whilst Chihli and all the Northern, Western, and many of the South-western provinces grow wheat as an alternate crop to rice-sowing about December, reaping in May and June, to the extent of at least another thirty-five million bushels.

There exist at present about thirty-two roller mills with modern plant, operating on Chinese wheat—which gives as much as 38% of patent flour—of which five are in Shanghai, 19 are in or near Harbin, 3 in Hankow and district, whilst one each are in Yunnanfu, Chungking, Chefoo, and Tungchow. Of these, eighteen are wholly owned by foreigners and the

rest by Chinese. Whilst no figures are published it is known that in Szechuan, Yunnan, Kweichow, Kwangsi, and Kansu, the production of wheat must be greatly in excess of the estimated figures given by various authorities for CHINA as a whole, and the spread of modern ideas has created a strong demand for white, or patent flour, which the present village water wheel, or horse driven grindstones are not capable of giving.

Wheat appears to grow in China between latitudes 22 N and 45 N, and between Latitudes 22 N and 30 N it would appear to thrive at all altitudes up to 7,000 ft. above sea level, indeed in Yunnan and Szechuan some of the best wheat in the country is grown at from 5, to 6,000 ft. above sea level. The majority of the crops are grown on alluvial or semi alluvial bottom lands, while hillsides and plateaus are used wherever the slope is under 40 degrees, or wherever a bullock can stand to plough, wheat is grown. The hardness of the grain varies considerably with the climate. In Manchuria 40% patents represents the average yield whilst in Szechuan the average falls to 34%, rising again in the extreme West to 38% in the dry zone of the Himalayan Eastern plateau. The bulk of the Chinese wheat has a short and relatively heavy straw and gives from twenty to fifty fold crops.

The price on the ground varies from about five shillings per cwt. to as much as £12.0 depending on transport, supply and demand, etc. Wheat is usually cut and stacked in the field, then threshed by flailing or horse rolls made of stone, and finally ground on stones actuated by animal or water power, and the resulting brown flour used for native bread, cakes, etc.

Water power being unusually abundant in China, small mills that would give an output of say 100 piculs (six ton) per day of ten or twelve hours (driven by water turbines direct or by motors and hydro-electric units) 40% white flour and balance lower grades, could be erected with advantage in at least fifty "FU" cities in China, whilst bigger mills up to an output of 50 tons per day could, provided supply arrangement was come to in regard to crop, operate successfully in Canton, Chungking, Ichang and Newchwang.

LEATHER.

Cow, buffalo and horse hides amounting to 19,400 tons, value £1,315,000, dressed and undressed, goat and sheep skins, value £605,650, were exported in 1912 from China; leather and leather goods to the value of £1,110,937 were imported from foreign countries during the same period.

The demand during the last three years for leather boots, belts, gloves, bags, saddlery, etc., to European patterns has steadily increased, and various provincial governments, private Chinese firms, and others have erected tanneries at Canton, Tientsin, Chengtu, Shanghai, Yunnanfu and Harbin to meet the demand, but the system practiced in most of the works seems in effect to reduce good hides to the poorest of leather. Many of these factories and tanneries are run by Japanese hired by the various Japanese educated Civil Tutuhs to teach the Chinese the art of tanning, but in nearly every case the result is far from being a success, despite the fact that hides, tanning material, water, and labour are plentiful.

That good tanning from Chinese leather using native tanning material is possible, is shown by a French tannery erected some two or three years ago in Tonking, where leather of all kinds is produced which obtains as good a price in the markets as the imported goods. In nearly every large Chinese city, boot and shoe factories exist, and it is estimated that there are in the treaty ports alone, over 20,000 such factories producing boots, belts, saddlery, etc., to the value of £650,000 per annum. Most of the products are of rough finish, poor material of little durability, produced by hand labour chiefly, the uppers as a rule being only stitched by American Singer sewing machines. Most of the factories employ from six to fifty labourers whose wages vary between 16 shillings and fifty shillings per month. The workers show considerable ability in copying faithfully the outward appearance of contemporary European and American boots, trunks, belts, etc., but the interior work and material leave much to be desired.

In Hongkong, one firm using for the most part Australian leather and imported trimmings, manufacture boots with Chinese labour practically as good as the European article at about 60% of the cost, and there is no doubt that if tanneries, in connection with boot and shoe factories were erected in Canton, Hankow, Shanghai, Tientsin and Mukden with machinery capable of turning out a fair average boot, costing say five shillings retail, with plant to make a better quality at about eight to ten shillings per pair retail, with an output of about 500 dozen per factory per week, the proposition would prove a paying one. Such factories should have if possible plant for manufacturing kit bags, suit cases, belts, gloves, and straps, as all these are in demand, and up to date no factory exists for turning out the quality demanded. European pattern saddlery and gloves are coming into demand more every day. In regard to these latter items, bearing in mind that kid, goat, and dog skins can be had in great quantity, it will be seen that they could be made at the point of demand, to much better advantage than they can be imported.

CHEMICAL PRODUCTS

China imports chemicals in the form of alkalis, indigotine, aniline dyes, match materials, etc., to the yearly value of about £2,242,565, of which values indigotine figures to the amount of £1,101,441. The predominating shade of Chinese dress being dark blue, indigo or its substitutes are in great and universal demand, that no trend of foreign ideas is liable to lessen for some very considerable period—if ever. China still grows vegetable indigo to some extent, but the native industry has been robbed of its value by reason of the imported German dye, and not one per cent. of the area under indigo twenty years ago is now cultivated.

Other shades of aniline dye to the value of £317,600 are used, in the various silk, cotton, and woollen dyeing and printing works, and in the paper trade. Phosphorous and match making chemicals, value £228,000, were imported and used in the various match factories. Medicines to the value of £439,500, mostly in the form of patent and proprietary articles, were imported and used, and the balance of the chemical import is made up of sodas, saltpetre, chemical manures, sulphur and sulphuric acid, etc.

Now the raw materials for 90% of the above products are present in China in at least as great quantities as they are in Europe or elsewhere, and if we take the item of patent medicines out of the above list there remains a chemical products industry of a present day value of £1,806,000 at least, with a greatly increasing yearly demand. Coal, as has been shown, is available in practically all its forms, near to river, ocean, and railway transport, sodas are found in Inner and Outer Mongolia, Kansu, Yunnan, Szechuan, Shansi, and Shantung, with smaller deposits in most of the remaining provinces. Sulphur is found in Yunnan, Kweichow, Szechuan, Kwangsi, Kansu, and elsewhere.

Alum, saltpetre, sulphur, are all worked in western Szechuan. The development of all mineral chemical industries depends on a fair and equitable mining code which would allow foreigners to start an enterprise with some hope of ensuring steady supplies of raw material.

Of the products dependent on vegetable sources, China grows in fair quantities, ginger, castor oil seeds, mustard, hemp, opium, vegetable and white wax, camphor, aniseed, cassia leaf oil, rhubarb, and many others. In most of these no effort has been made to increase scientifically the quantity or the quality, and old methods of cultivation, expression, etc., largely prevail. Yunnan especially is noted for its exports of medicines, which grow wild on the mountain sides, as they do to a lesser degree in Kweichow and Kwangsi.

Musk is collected in fair quantities both by European agents and by natives on the Eastern slopes of the Himalayan ranges in Yunnan, Tibet and Western Kansu.

Coming now to items of manufacture which are dependent more or less on articles already dealt with, we have to consider the manufacture of matches, paper, small metals, pressed, cast, and wrought wares, soap, stationery, glass, umbrellas, enamelled hollow ware, etc., for all of which an increasing demand is making itself felt, and which demand must with the opening up of the country in course of time develop into huge dimensions.

MATCHES

Flint and steel still remain the only means of obtaining fire in the more remote portions of the republic. Matches are used to a greater or lesser extent—depending on the transport available—by fully 5/8ths of the total population, the bulk of which are manufactured in Japan, to the amount of thirty million, gross value £1,047,000 (1912). China manufactures matches, mostly of the old sulphur variety, in twenty-one towns, and has modern factories at Hongkong, Shanghai and Canton, but the output of these is wholly inadequate to fill the demand. In the interior provinces imported matches are often so dear and scarce as to be practically a luxury. Japanese matches are retailed at ten cents per packet of 12 boxes in most of the coastal and riverine ports (2½d) but in the interior, prices run up to 20 cents. (5d). Contrary to general belief, China has considerable forests still existing and might without difficulty make all the splints required for a domestic match trade, provided she employed modern machinery.

A great portion of Western Szechuan, Yunnan, Chinese Shan states, Kweichow, and the headwaters of the West river is heavily timbered with varieties of cunifrons, mostly in dense growths, of small trees averaging ten to twenty-five inches base diameter, suitable in every way for the production of match splints on a large scale. As a rule the forests are either on the banks of mountain streams and rivers or in close proximity to them, which would allow water power to be used for factories.

Fukien province also has some forests of Chinese pine, but these are fast disappearing in the form of poles exported through Foochow.

Much of the Western portion of China was clothed in heavy forest up to within the last hundred years, but clearing, emigration, forest fires and lumbering is fast thinning out this area, save those portions of it which are too far removed from transportation to allow their profitable operation.

Factories at Chungking, Chengtu, Sui Fu, Yengping Fu (Fukien), Nanning Fu, and Mukden, would pay well provided small sets of modern machinery, capable of a daily output of about one thousand gross boxes, per factory, of the ordinary non-sulphur Swedish pattern safety match were erected.

Japanese matches, although cheap, are as a rule too fine in the splint and fully 25 per cent break on being struck. The demand is for a stronger splint match, in boxes of about 50; 12 boxes in outer wrapper to retail for about 10 cents copper per dozen boxes.

Labor could be had in most of the districts enumerated at from twelve to twenty shillings per month without food, and power is abundant.

PAPER AND FIBRE INDUSTRIES.

China manufactures paper in very considerable quantities and practically all wrapping and cheap papers are home made, but all printing and writing paper is of foreign make and is imported to the value of £500,000 per annum, with a greatly increasing market.

Government paper mills exist at Wuchang, Hankow, Shanghai, Canton, Chengtu, Tsinanfu. Foreign owned modern mills are located at Shanghai, Kongmoon, and Hongkong. The supply of domestic made paper by no means equals the demand. The Chinese paper industry is perhaps the

oldest in the world, and from paper mills examined between 1906 and 1914 in widely different parts of the republic, the writer has concluded that the method employed to-day is the same that was used four thousand years ago.

The best paper is made from the inner bark of a species of mulberry that grows in the Western provinces, the bark being stripped whilst green, tied in bundles, and soaked in a stream for three to six weeks, then put into a circular stone trough, and pulped by a revolving stone attached by a shaft to a donkey or buffalo. The resulting pulp is thinly spread on cotton covered bamboo frames the size of the required sheet, drained off and allowed to stand in the sun till dry, then sun bleached, and the resulting product is a tough, heavy white paper which it is almost impossible to tear.

Brown wrapping paper of the commoner kinds, an enormous quantity of which is used in the preparation of firecrackers, is made in every province from a variety of different grasses and fibres, by a similar process except that the sheets are usually pressed onto a stucco covered wall facing the sun and peeled off when dry.

The great bulk of Chinese made paper is of fibre and vegetable origin. Rags are not as plentiful in this country as they are in Europe, as even the smallest cuttings are pasted together to form a foundation for native pattern shoe inner soles. Fibres of different varieties are however plentiful, especially in Kwangtung, Hupeh, Yunnan, Szechuan, Kiangsi, Kwangsi, where ramie, abutilon, hemp, jute, etc., are grown. Bamboo is also pressed into use as a paper making product, but the native processes do not provide sufficient means of separating and pulping the fibres to make a successful paper.

Printing presses and native newspapers have been set up in nearly every large center of population since the revolution and fifty-one foreign owned printing and lithographing works exist in the treaty ports and Hongkong, and the demand for a thin, white printing paper for newspaper, books, and kindred purposes would pay for the erection of mills in the fibre producing centers. Many of these districts at present lack easy means of communication with the coast, but it should be remembered that it is in such places that the enhanced price obtainable, would justify the use of machinery.

In connection with the same trade, printing works run on sound commercial lines, using Chinese compos and labor, together with copper plate, lithographic, and collatype works are badly needed in the interior of China, the lithographic and block work except in a few of the larger treaty ports being of a very poor quality.

School books, stationery of all kinds for schools, government offices, etc., are in demand and in most of the interior provinces little has been done to meet the popular Chinese taste for these articles.

Labor is as a rule fairly efficient and cheap when properly organized and the lack of production is not the fault of the individual laborer but—as is usual in most things Chinese—of the lack of commercial organization.

Peking possesses a modern printing works. Aside from the Commercial Press at Shanghai no Chinese works can compare to the mission presses or certain of the Shanghai foreign works.

SMALL METAL WARE.

Small hardware for all purposes, comprising house, building, canning, pressed and tinned articles, leather hardware, boot eyes, buttons in brass, copper, and nickle, electro plated goods, lamps, scissors, knives, razors, nails, needles, screws, tinfoil, etc., could all be manufactured to advantage in a country where labor and power are as cheap as they are in China, and where the demand is at the door.

The total value of the imports under this heading for 1912 stands at £663,600 (1912), with an additional sum of £560,500 for small machinery which could be equally well made in the country.

At present China produces neither tinned sheets, iron, or steel sheets or nail or needle wire to allow of her providing her own raw material for her presses, but as has been already shown under the heading of Steel and Iron products she has within her frontiers the means of production whenever her laws will admit of the working.

Natives in all provinces show considerable ingenuity in working up crude Chinese pig iron into small wares, and most of the hoes, buckles, knives, bells, bronze, iron, brass, and spelter castings, for images, gods, axes, turned brass and copper bowls, copper cooking utensils, hand made nails, and screws, of both iron and copper, boat sheathing, etc., made in the interior towns and workings to-day are produced under primitive conditions hard to realize at this period unless seen.

In producing the semi-hemispherical iron pots used by the natives for cooking the makers succeed out of the crudest materials in making castings that would do credit to the best European methods, but the time necessary in making them (as well as harness and other buckles, buttons, nails, etc.) by hand, makes successful competition against machine made European goods impossible.

To find a parallel to the state of the Chinese metal ware trade it is necessary to compare it to the trade of Europe at the end of the eighteenth century. The natives have all the skill and much of the knowledge of manufacturing metal goods, without any of the necessary machinery to enable them to compete—even in their own markets. In Yunnan, Szechuan and Kweichow, pre-eminently the economic mineral area of China, the writer has noted over two hundred villages where iron is worked, seventy-five where copper is mined and smelted, nine where tin is washed and smelted, twenty-eight districts where spelter is reduced, and sixteen where lead and silver is separated, yet with the exception of one tin refining plant, one hydro-electric plant, and one furnace blower plant, there is not in all this vast region comprising over 400,000 sq miles, one factory using modern machinery for the production of metal wares.

In Canton there are many workshops for small machine work, but even here the bulk of all metal ware is still imported, and no organized effort has been made to give China her own workshops or to take advantage of the cheap and plentiful labour that exists.

METAL WARES

Hongkong, Shanghai and Canton possess iron foundries, but all of these are owned by foreign firms, and are usually associated with dock-yards and ship repairing establishments.

HOLLOW ENAMELLED WARE

Belgium and Germany both export cheap hollow ware to China, to the value of £106,000 (1912), and this in the face of the enormous amount of pottery that China produces herself in practically every Hsien district of the republic.

All the necessary raw materials exist both for manufacturing these goods, not only for China but for the rest of the East. When it is considered that India, Java, Malaysia and Straits in the aggregate, import a yearly total of £456,000 of this ware, manufactured in countries paying at least 250 per cent more for their labor than would be necessary were the factories operated near the markets (in addition to freights, etc.) it must be admitted that no effort has been made to cope with the demand.

Copper, brass, and iron hollow ware for domestic use are made in all the western and several of the central provinces, from hand hammered sheets for the most part, and thin cast iron. The trade in one province alone is worth over £21,000 per annum, but although hand decorative enamel on copper and silver is carried on in certain restricted areas, no machinery exists for turning out domestic iron enamelled ware on a commercial scale.

Teapots, plates, tea cups, basins, lunch carriers, and mugs are in demand, and may be found exposed for sale from Manchuria to Sinkiang, all bearing Austrian, German, and Belgium trade marks.

SOAP

This commodity is imported from Great Britain, France, Germany, Austria and Belgium to the value of £345,000 (1912) in addition to that which is manufactured in eighteen native and eight foreign owned works in the country. In addition, other works are being erected in Shanghai, which it is claimed will be able to supply most of the coast provinces, but in view of the fact that all the necessary raw materials are cheaper in the interior than they are at the coast, except palm oil and copra, and that materials manufactured at the point of demand will always be able to compete against the same manufactured hundreds of miles away and subjected to heavy transport charges, it is doubtful if smaller factories established at the markets would not succeed better than large ones on the coast. Tallow can be had in most of South-west and North-west China centers at from 6 cents to 9 cents per lb. which works out at £13 to £20 per long ton, and soap factories already existing do quite well, but cannot turn out soap equal to the imported varieties owing chiefly to lack of machinery and technical knowledge.

GLASS AND GLASS WARE

The total imports under this heading for 1912 totalled £120,100, the bulk of which was of German, Austrian and Belgium origin, and consisted for most part of window glass, plain and coloured, bottles, tumblers, electric shades, and similar small cheap ware.

Seventeen glass works exist in China of which twelve are wholly native owned and operated, and the remainder foreign.

Bottles are greatly in demand in China, and outside the main centers sell at a price wholly out of proportion to their cost. The adoption of window glass in all of the better class residential houses is only prevented by the high interior cost which varies from 150% to 500% of the coast retail price.

Wherever the Chinese have been able to obtain it, glass has come into general use, but unfortunately although the coast districts are well provided, by factories, foreign imports, etc., the interior, with the exception of Harbin and Changsha, possesses not a single modern works. The raw material is much more plentiful inland than on the sea board. Present methods of Chinese transport however do not lend themselves to the successful carriage of glass and other fragile wares.

Factories established at Chungking, Kingchoufu, Posehting, Anking, Kongmoon, and Sianfu, would each cater to about 15 million people and each would have raw material either at its door or within easy transportation.

So far, only cheap varieties of pressed and moulded glass have been in demand. If up to date plants were installed, the operating costs would be much less than for similar works elsewhere in the world. Whilst this exhausts our list of items of import which might better be manufactured in China, it by no means even touches the fringe of the industrial opportunities that await those who would enter in the many forms of industrial development presented.

The Chinese people have many great qualities but seemingly do not possess sufficient administrative ability to carry on producing works to compete against foreign endeavour. Whatever the industry may be, native owned and directed works, have never, so far as the writer is aware, really competed against importers to any great extent.

Many excellently equipped factories certainly exist, but their management, output, and general operation is deficient. For instance, all kinds of oil seeds, sesamun, ground nut, bean, mustard, and cotton,—abound in many of

the southern and south-western provinces, but the means of extracting the oil is either totally wanting, or else when present, the machinery is not operated in an efficient manner, and it is only in a small part of the north, especially in Manchuria, that oil mills can be said to exist.

In certain commodities such as clothes, school books, etc., it would be hard for up to date factories to compete against the native, but in most things, small, compact, up-to-date plants capable of catering for the needs of their particular markets are badly needed, and would if erected prove valuable holdings.

Second hand machinery, bribery, corruption, and poor administration, have not aided the country to build up its industrial wealth, and although silk, tea, and certain other industries have received much attention, it was only as raw materials to be exported, not as materials to be manufactured. China offers greater openings for foreign capital than any other country in the world, and it remains to be seen what efforts will be made to cope with the situation. Loaning money to China will afford no real help in her battle to help herself, but factories established throughout the land to enable her to use her own resources will prove of the greatest possible benefit to the greatest number, and allow China at the same time to copy our methods and ways, and to emulate our industrial laws.

Diplomatic pressure on China to benefit individual firms and corporations must eventually prove harmful to the country applying it, but pressure brought to bear to give all of all countries equal opportunities, and miners of all countries equal rights, must not only benefit all foreigners, but all China.

In conclusion I give under a list of the factories most needed at sites nearest to transportation, raw material, and markets.

HANKOW	Copper refineries, sheet copper and brass works. Iron sheet, plate, wire, pipe works. Steel sheet, pipe, wire works. Corrugated sheets, galvanizing sheets, pressed iron, tin, and other ware. Hollow enamelled ware. Umbrella frames. Nail and needle factories, tinned sheet factories, etc. Iron foundries, glass. Oil and cakemills, roller flour mills, paper, glass, boot, shoe, and leather factories, tanneries, match, soap, etc. Soda and Alkali works.
CANTON	Albumen, paper, vegetable oil press, cigarette, indigo, rope, sugar refineries, soap. Iron, copper, tin, smelters and refineries, wrought iron and steel works, small metal ware, builders, leather, and other hardware, nail and needle factories, lamp and lamp ware, tinned galvanized sheets, plain and corrugated sheets, glass, enamelled iron ware, bone and metal button factory. Telephone, telegraph, and power wire, etc. Boiler and machinery shops.
YUNNAN	Tin, copper, silver, lead, nickle, spelter, refining furnaces. Iron blast furnaces, converters, machine shops, foundries, mining and tool steel works, copper rolling, brass founding, iron, steel, and other sheets both galvanized, tinned and plain. Oil mills, flour mills, soap, cigarette, woollen, weaving and working mills, glass works. Leather and boot factories.
NANKING	Iron furnaces and converters, telephone and telegraph wire, nail and needles, small hardware, seed oil mills, glass and paper mills, leather and boot factories.
TSINGTAU	Iron furnaces and converters, rolling mills, wire, plain, corrugated, galvanized and tinned sheets. Cotton ginning, and cleaning and weaving works, (spinning). Glass and cement and tile works. Pipe for steam, gas and water, iron and brass foundries.
NANNINGFU	Flour, oil and rice mills. Tanneries, and leather manufactures, sugar refineries.
CHUNGKING	Flour, oil and rice mills. Tanneries, and boot and glove factories, rope and fibre factories, paper and glass mills, antimony, spelter, copper, and iron smelters and furnaces. Match factories, boiler machinery, hardware, and nail and needle wire, bolts, nuts, etc., plants.

THE DIFFICULT POSITION OF THE BOARD OF COMMUNICATIONS

(Contributed)

The flotation of railway loans must be delayed by the financial stringency due to the disastrous war of 1914. The present pause is therefore a suitable opportunity to look back on the work of the past, and to consider the future.

There is no question as to the benefit to the people of China from the building of railways, but it is equally certain for the present at any rate, that the Government cannot undertake unremunerative lines, and therefore financial results are of the utmost importance.

It is not easy to state the cost of railway construction in China. Figures have been published from time to time, often by interested persons trying to make out that their methods, or their nationals, produce better

and cheaper work than any other. Such statements conveniently omit a good deal. Other statements simply give a lump sum, without details and no quantities that would enable the figures to be checked, and rough estimates have been put forward as if they were as good as the results of finished work. After the work is done, it will be time enough to compare results.

There are legitimate reasons for the absence of useful figures, the amount contributed by the State to certain lines is not definitely ascertainable, and destruction of records in rebellions, and extensive damage to railways, has complicated the cost. One of the best things done by China in recent years is the appointment of the Unification of Railway Accounts Commission. When their recommendations take effect, the railway accounts of China will be among the best; that however is in the future, at present we are only on safe ground by taking a typical railway entirely constructed under a loan agreement and certified by a competent accountant. The "all in" cost is the total of loans, overdrafts, and debts, less any funds remaining.

A very fair average sample piece of line is the Southern section of the Pukow railway. It has been recently built, is not an extension of an existing line, so had to set up its own administration. The rails are 85 lbs. and the track is good and well ballasted. Bridges amount to 97 feet per mile, the largest being 9 spans of 200 ft. For a third of its length the route passes through broken country involving a good deal of rock cutting and banking. Swampy land gave some trouble. In the broken country there is much grade of 1 in 150. A large terminal had to be built on the low land at Pukow, and suitable workshops have been installed at Puchen. Stations are simple, but adequate in accommodation. The locomotives are fine, and enough other good rolling stock was provided to start the operation of the line.

Up to the end of 1912, the "all in" cost was £11,750 per mile. Discount on the issue and other charges took £1,050, and interest during construction £1,540, leaving £9,160 for construction, including Head Office and all incidental expenses.

To compare one railway with another on the cost per mile basis is absurd, without details. In flat easy country with few rivers, and little trouble from floods, the work will cost less than £9,160. In very difficult country, with rapid rivers, or very wide rivers, and under adverse political conditions, it will cost more. To take one item as an example, a railway under former conditions has 50 feet of bridge work per mile, another in hilly, but not difficult country has 200 ft. per mile, and of a larger class, so that the cost of the one, per mile, is fairly six times the cost of the other. No useful comparison can be made without quantities and conditions.

The exchange, length of line, climate, labour conditions, and many other factors are not controlled by engineers, or contractors, and affect the cost. For a good "average railway" it would not be safe to take less than £12,000 a mile as the "all in" cost, involving an annual interest payment of £600 (at 5%) and a redemption payment of £300 from the tenth to fiftieth year, in addition to working expenses and improvements.

It must be noted that China has set herself an onerous task to pay 5% from the start, and to redeem the capital. A vision of railways with all the capital paid off, and the entire revenue available to improve and extend the lines or reduce rates is a magnificent conception. An order to this effect in Europe or America would cause consternation in railway and trading circles, and a panic on the exchange. Can it be done in China? Is it being done?

When we turn to operating accounts some confusion again appears, also to be remedied by the accounts commission. State capital, all or partial, reduces interest and redemption. Some lines cannot pay all their interest, some can, but not redemption (which perhaps is not yet due) but no clear statement can be obtained anywhere, and some care must be taken to distinguish the real results. Unless the same standard of maintenance is observed, and the same practice as between maintenance and improvement account, comparisons are affected.

The most successful railway undertaking in China is the South Manchuria railway, 702 miles. On all points it may not lead, but from the public point of view, the revenue per mile, (over yen 30,000 gross) passenger and freight facilities, general discipline and good order, are probably better than on any other line. This railway possesses advantages unattainable on Chinese lines at present. It is far less impeded by out of date Customs and likin arrangements than any other line, and the whole of the profits are spent on developing it.

The Peking-Mukden line is perhaps the best example to consider, and its position may be condensed thus, length 605 miles, revenue \$22,350, working expenses \$7,760, net revenue \$14,590, which was spent thus, improvements \$2,810, sundry outside items \$500, interest \$1,570, redemption \$1,180, to the Government \$8,380, all these being per mile per annum. As the rate of exchange was above the average, for the £12,000 line it may be put that we require \$7,000 for interest, \$4,000 for improvements and sundries, and after the 10th year another \$4,000 for redemption. The P.M.R. was partly constructed with State funds, and the capital on which interest and redemption is now paid amounts to £3,000 per mile only. There would have been very little left to hand over to the Government if it had been a £12,000 line, and for the last seven years the railway would just have held its own, paying interest, improvement and redemption. But the worst would now have been past, for as the loan is reduced, charges decrease, and it may safely be said that the ideal conditions can be, and are being, obtained on the Peking-Mukden Railway.

On the Peking-Kalgan railway, 143 miles, in the first year the net revenue amounted to \$500 per mile, in 1911 to over \$3,500, and in 1912 to \$9,000, a good result. As this line was constructed with State funds, mostly supplied by the P.M.Ry, there is no important loan interest, etc., to

pay, and here we have already in operation the beneficent results aimed at for all China. The surplus is being used to extend the line.

On the Peking-Hankow railway, 836 miles, net revenue per mile 1906, \$6,000, 1909 \$9,500, 1912 \$11,500, 1913 about \$14,500. This railway is burdened with the repayment of the Szechuen-Hankow railway loan, and with an extra loan raised to redeem the original concession, so payments for redemption are heavy. But if the revenue of 1913 can be maintained all obligations should be met without curtailing the very necessary improvements.

The Tientsin-Pukow railway, 674 miles, made \$5,000 a mile in 1913 as gross receipts, a good start, in 1914 the net should reach \$3,000. Apparently full interest will not be paid until the 3rd or 4th year, and the improvement account is a large one, mostly for extra rolling stock. But there is no reason why this railway should not, in a year or two, be among the best.

The Taiyuanfu railway, 151 miles, is now doing better, and net receipts have reached, 1913, \$7,000 per mile, more than enough to pay interest, but not enough for redemption or improvement, however it seems likely to reach that stage before long.

Unfortunately there are some less encouraging results. The Taoching railway, 93 miles, with net receipts of under \$2,000 cannot pay interest in full, nor is there much prospect of its coming up to standard. The Pienlo railway, 115 miles, gross revenue about \$5,000, is in the same position but will become part of a through route, when its prospects will improve.

The Shanghai-Nanking railway, 211 miles, has to meet such severe competition by canal and river, that freight traffic is very small. The gross revenue is about \$14,000 and the net \$5,000. Interest however exceeds that, and the line may not reach standard until it is connected to the Nanking-Changsha railway.

The Pinghsiang railway, 70 miles, has gross of \$8,000 and net probably \$2,000, not enough for the standard interest. This line may form part of the Nanking-Changsha system.

The Canton-Kowloon railway, 112 miles, has to meet severe river competition, and the freight traffic is very small. The net revenue is a very small figure, and improvements have still to be faced. The line will do better when connected to the Canton-Hankow line.

The Kirin-Changchun railway, 80 miles, appears to be in a difficult position, with \$6,000 gross, and expenses exceeding this though probably some of this is due to the line not being quite finished.

As with construction figures, these results per mile of railway must not be used to compare one railway with another without knowledge of quantities and conditions. But they do show the net revenue, and interest obligations, in a way that enables us to get some idea of the problem.

There are a number of private railways in China, mostly very short. A few appear to pay working expenses, but some have not been completed owing to want of, or disappearance of, the funds, and others have failed owing to disagreements among the shareholders. If they are to continue running some of them will eventually have to be taken over by the State, and as the proprietors expect to be recompensed for all the money lost, there is not much profit in sight to the Government from the private railways.

When taken en bloc, there is at present a deficit in the budget, that is to say working expenses and interest can be paid, but either much needed improvements cannot be carried out, or redemption must in some cases be delayed. This is the difficult position in which the Board finds itself, they have the hard task of reconciling conflicting claims on the improvement fund, and of finding the deficits.

Until it is seen how things are going, it would not be wise to provide too much rolling stock, for example, at the start of a new line. But the improvements of the first three years are really the completion of the construction, and it seems quite fair that FINANCIERS SHOULD ARRANGE FOR PART OF THE INTEREST AND ALL THE IMPROVEMENTS OF THE FIRST THREE YEARS TO BE INCLUDED IN THE CAPITAL, AND FOR THE REDEMPTION TO START ON A SLIDING SCALE. To put the working account in debt at the start, for interest, and to hamper improvements is carrying the ideal too far. The first five years should be allowed for attaining full interest, the second five for building up a respectable improvement fund, the third five for getting well into redemption, and the fourth five for attaining a matured position and assisting new lines.

The railways now open may be divided into three classes. First those that have reached a safe position. Second those with good prospects but requiring help during first years, and third those with no immediate prospect of meeting full obligations.

No more of class 3 should be built for purely commercial reasons, unless State aid is promised, and railways of class 2 should not be built faster than class one can support. At present this may appear slow, but the ratio of expansion will be an increasing one, and in 25 years' time the possibilities will be enormous.

In the meantime can anything be improved? can construction and operation costs be reduced, or revenue increased? Financial charges are a matter of credit. It seems impossible at present to raise capital by shares at par, on which no interest would be paid till it was earned. Every obstacle to trade, every disturbance, scares lenders. A riot or tricky law anywhere, though not in the least connected with railways, injures confidence and raises the terms of railway loans. The adventures of White Wolf increased the cost of every railway that will be built for some years. The war will cause a great demand for capital in Europe, and no reduction of financial charges seems likely.

Construction work has hitherto been done under railway administration. Contract work (i.e. for an exact price offered in advance) is out of the

question. A contractor wants plans, specifications and quantities from the chief engineer, he wants tenders for all materials delivered at the site, he wants many sub-contractors, men with no capital but much labour experience on railway work. He knows from his own past experience what similar works have cost, he knows that after the Directors have settled the contract that he and he only will manage the work, and he wants all this *in advance* so as to enable a *bona fide* offer to be made up. To take such a contract in China would be a plunge into the unknown. An offer could be obtained, of course, but it must be wide enough to cover all risks, and therefore is not a profitable offer, for China. The remedy for all this is in China's own hands; improve the conditions, and some day contractors will appear, and there should be some benefit from the competition.

But under the same improved conditions, administrative work will also be easier. It is not a question of the name of the system, but of the experience of the men in charge, for after all both work on exactly the same lines, namely, materials bought by tender, and as much labour as possible sublet.

China's directors and engineers have had considerable experience now on some lines, and contractors have a hard task before them to better the results. There seems little chance for reduced construction costs.

Maintenance charges are naturally light on a new line, after 5 years sleepers begin to go, after ten the rolling stock wants much repair, after 15 the very rails get worn down. No railway has reached its maximum working expenses, but if receipts increase in a greater ratio this will be balanced.

The only possible solution is increased revenue. This is not only possible but is taking place, but the utmost efforts are required in all directions to speedily abolish antiquated Customs and likin arrangements, to introduce the booking at railway risk and delivery to all places, to train an efficient police, and to sternly put down petty exactions at stations.

Rates may not be higher than in Europe, but what does that mean to a Chinese? With his much lower scale of daily finance, it means a very high rate, and one of the most intricate problems is to decide whether a reduction will lead to sufficiently increased traffic. In time it will and must come, if railways are to be a real benefit to the people. It would be worth trying one or two cheap fares between large cities, for 3 years, say third class fares of \$1 between Peking and Tientsin, just to see how it would result.

Recently the accountants' commission did a great deal of useful work, and the near future should see a development of this action, in standing commissions appointed for each principal section of railway work all over China. The standing commissions should be asked to select a few of their best men to form a Central Commission to assist the Board in matters of general policy.

On the railways the staff of officers is small for all the supervision they have to do. Their non-commissioned officers are willing, but it will take time to train up a generation with the railway instinct in their bones, and proper ideas of responsibility and efficiency. The coolies who worked well on construction when paid by contract, assume a somewhat nonchalant attitude when paid by the day. Much has been done, but much remains to be done, and all ranks and classes should combine to "do their bit" to assist the Board to put China's railways on a firm footing.

O. W.

TSINGTAU SOAP FACTORY

A German Chemist recently erected a soap-manufacturing plant in Tsingtau, which appears to be having considerable success. The idea is to manufacture toilet and washing soaps to be supplied to the natives at lower prices than the imported products.

A novelty which has been introduced, is the sale of soft soap in enamel buckets. This is sold in graniteware enamel buckets holding 10 kilos, and sells complete with wooden cover for the bucket at \$3.80 Mexican (\$1.79 gold), a 5-kilo bucket of soap selling at \$2.20 Mexican (1.03 gold). The cost of the bucket and soap together is less than the buckets alone in the regular retail shops of the city. This mode of selling appeals particularly to the Chinese, as they are particularly anxious to secure enamelware goods.

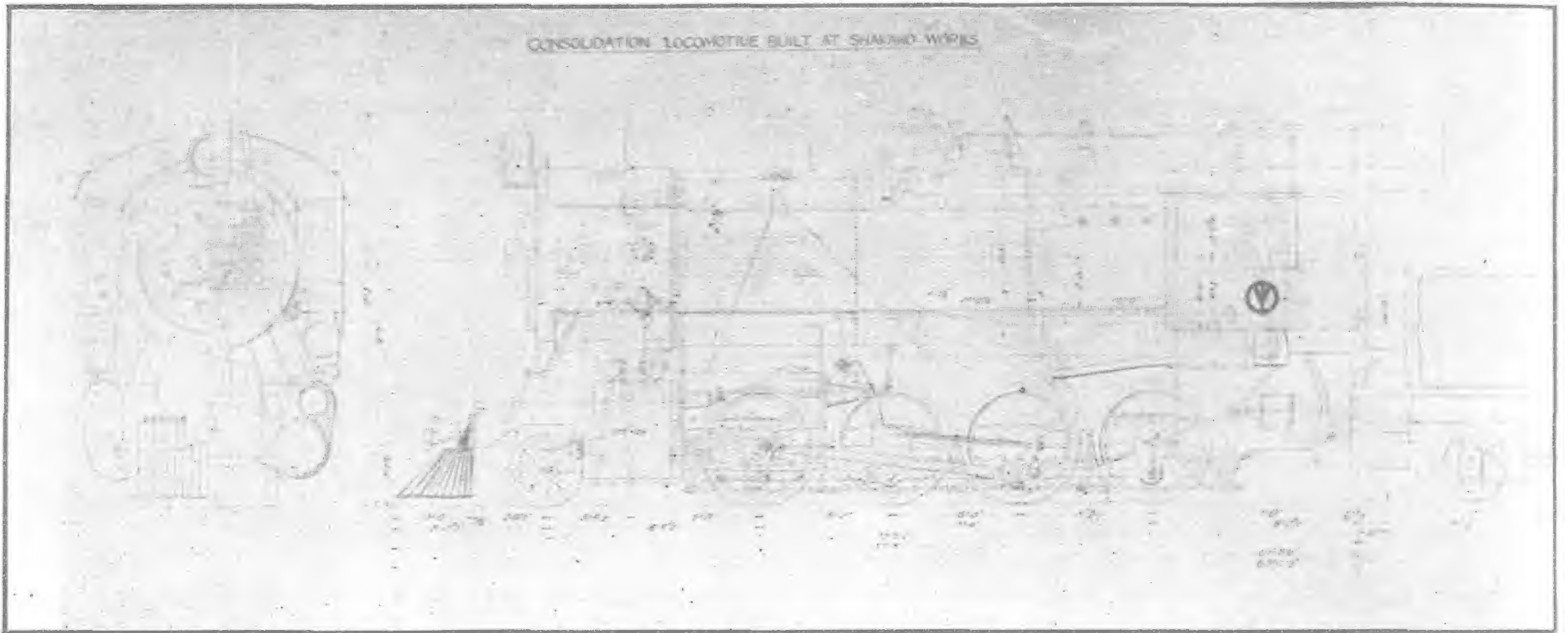
The soap factory sells its violet, lilac, heliotrope, and lily-of-the-valley scented toilet soaps in cartons containing three cakes at \$1 Mexican (0.47 gold) per carton at retail. Other toilet soaps are packed four cakes in a carton and are sold at 50 cents Mexican (23 cents gold) per carton. Family toilet soap comes six cakes in a carton and sells for 50 cents Mexican (23 cents gold). Lanolin soap sells for 15 cents Mexican per cake and shaving soap at 20 cents per cake. Washing soaps come 25 cakes or bars to the case, each bar weighing 2 pounds, and sells for \$5 Mexican (2.35 gold) per case. Tar soap, packed 25 cakes of 2 pounds to the case, sells at \$4.50 Mexican.

The machinery for this factory was secured from Germany.

S. M. R. LOCOMOTIVE

STANDARD GAUGE RAILWAY ENGINE

DESIGNED AND BUILT AT S. M. R. WORKSHOPS



On Friday, October 30th, 1914, a trial trip was successfully made of a new Railway Engine on the main line of the South Manchuria Railway, which event marked a new epoch in the annals of Japanese Railway Engineering. Already on the Imperial Japanese Government Railways home-built locomotives are drawing Imperial Government trains, but all the Japanese home lines are on the narrow gauge. This one, whose trial trip Dairen had the honour of witnessing, is the first standard gauge locomotive ever designed and built by Japanese engineers. The South Manchuria Railway Company had the distinction of producing this interesting piece of work at its central workshops at Shakako, near Dairen, the terminus and headquarters of the Railway, and one of the most flourishing ports in the Far East.

The lay-out of the Shakako Workshops, though on a comparatively small scale, is one of the best and most up-to-date in the world, and the equipment is second to none. Opened only in 1911, with the most modern facilities and machinery that science had invented, nothing has yet become obsolete or old-fashioned, while new inventions and facilities are added whenever they appear. There are nearly 3,000 well-trained employees, the majority of whom live in a model town adjoining.

Having produced some of the most beautiful saloon carriages and passenger cars in the world, as well as goods cars of every description, tram cars, etc., and having, in addition, put out at short notice much machinery, such as huge winding machines for use in the Company's coal mines, etc., it is not to be wondered at that, under such an able superintendent as Mr. H. Mori, formerly Superintendent of the Workshops of the Imperial Japanese Government Railways, ambition should soar to the construction of a locomotive engine.

Hitherto, the South Manchuria Railway trains have been pulled by the finest locomotives money could buy in America and Great Britain. But it is claimed by the builders that this home product has proved by actual running to be the finest engine, with the highest efficiency, among all the

locomotives in the possession of the Company. It is of entirely new design, and has been aimed at embodying the merits of the best types in Europe and America to suit the condition of the Company's lines.

Thanks to this initial success, the Workshops are now building five more locomotives of exactly the same design, and are also constructing six double-ender tank engines for the Chosen (Korean) Government Railways. Moreover, it is intended to gradually increase the capacity for building new locomotives and cars.

The following is a description of the engine whose trial trip is under mention:—

The frames are of plates with underhung driving springs, similar to the Continental type, and have 0.176" deflection per short ton, which lies between the English and American practices, and effects the best riding of the engine.

The boiler is of the Belpaire type, with cylindrical smoke-box, supported by a saddle made of steel plates, the exhaust pipes in the saddle being of steel.

The brick arch is of special re-enforced design, with no arch tube, which has been found, by actual trials already made on several locomotives, to last over seven months without attention.

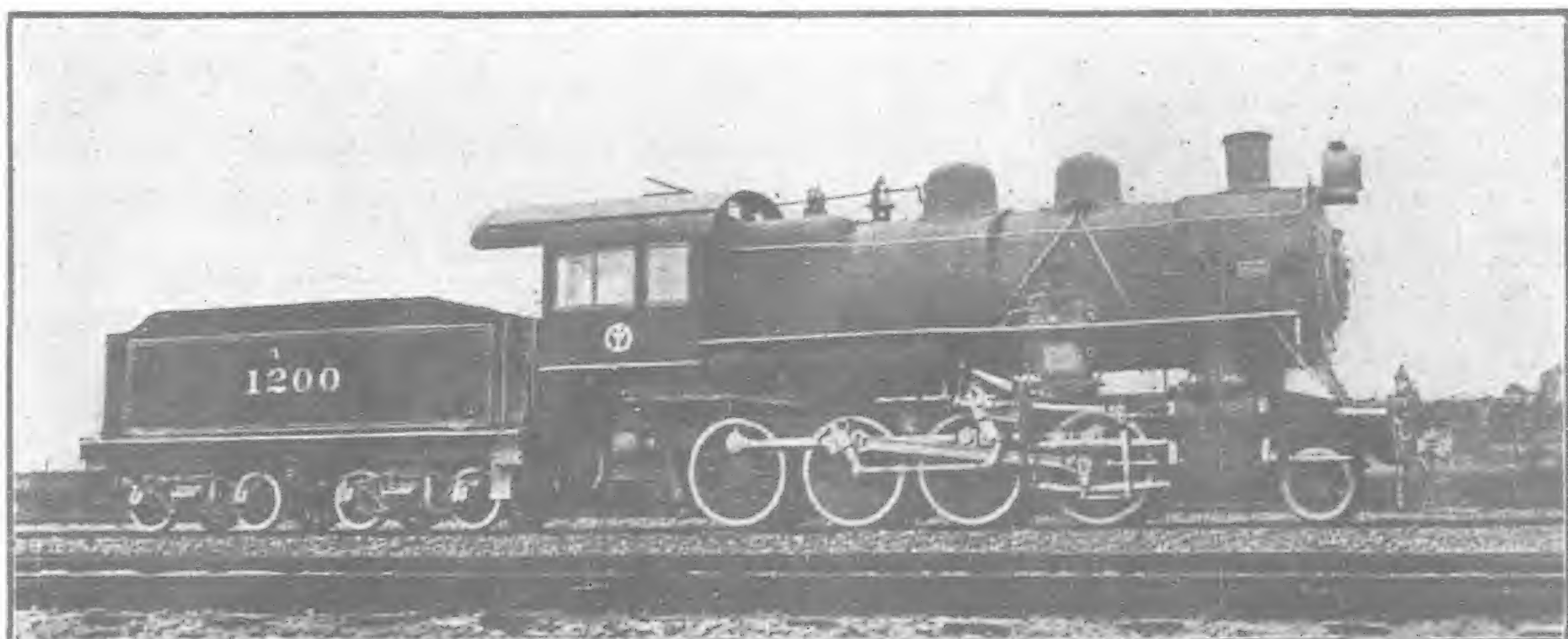
The superheater is of the Schmidt type, with superheater heating surface of 532 sq. ft.; and the lubrications of cylinders, steam chests, and air pump are by Michalk's patent mechanical lubricator.

The valve motion is of the ordinary Walschaert type, and the elliptic valve diagram was automatically drawn by actual valve motion, thus ensuring that the steam distributions in the cylinders are perfect.

The principal dimensions and weight distributions of the locomotive are as follows:—

GENERAL DATA

Gauge .. 4'-8½"
Fuel .. soft coal



New Standard Gauge Engine Built at the South Manchuria Railway Shops.

Traction effort	40,000 lbs.
Weight of engine in working order	181,850 lbs.
Weight on first drivers in working order	41,000 lbs.
Weight on second drivers in working order	40,750 lbs.
Weight on third drivers in working order	40,200 lbs.
Weight on fourth drivers in working order	41,100 lbs.
Total weight on drivers in working order	163,050 lbs.
Weight on leading truck in working order	18,800 lbs.
Weight of engine and tender in working order	292,400 lbs.
Wheel base, driving	15'-4"
Wheel base, total	23'-8 1/2"
Wheel base, engine and tender	53'-5 1/4"

RATIOS

Weight on drivers ÷ traction effort	4.08
Total weight of engine ÷ traction effort	4.55
Traction effort × diameter drivers ÷ *equivalent heating surface	646
*Equivalent heating surface ÷ grate area	68.3
Fire box heating surface ÷ *equivalent heating surface, per cent	5.42
Weight on drivers ÷ *equivalent heating surface	48.7
Total weight of engine ÷ *Equivalent heating surface	54.1
Volume both Cylinders, cub. ft	12.88
*Equivalent heating surface ÷ Volume Cylinder	250
Grate area ÷ Volume Cylinders	3.8

CYLINDERS

Kind	Simple
Diameter and stroke	22 1/2" × 28"

VALVES

Kind	piston
Greatest travel	6"

WHEELS

Driving, diameter over tires	54"
Driving journals, main, diameter and length	9 1/2" × 10"
Driving journals, others, diameter and length	9 1/2" × 10"
Engine truck wheels, diameter	33"
Engine truck, journals	5 1/2" × 10"

BOILERS

Style	Belpaire
Working pressure	180 lbs.
Outside diameter of first ring	6'-1 5/8"
Firebox, length and width	5'-9 1/4" × 8'-5 7/8"
Tubes, number and outside diameter	225-2"
Flues, number and outside diameter	32-5 3/8"
Tubes, length between tube sheets	14'-5 3/4"
Heating surface, tubes and flues	2,367 sq. ft.
Heating surface, fire box	182 sq. ft.
Heating surface, total	2,549 sq. ft.
*Equivalent heating surface	3,349 sq. ft.
Superheater heating surface	532 sq. ft.
Grate area	49 sq. ft.

Smoke stack, height above rail	15'-3"
Centre of boiler above rail	9'-6"

TENDER

Tank	Water bottom
Frame	Channels
Weight	110,550 lbs.
Water capacity	5,000 U. S. gallons
Coal capacity	11 1/2 short tons

*Equivalent heating surface = $2,549 + (1.5 \times 532) = 3,349$ sq. ft.

RAILWAY APPLIANCES

THE PYLE NATIONAL HEAD-LIGHT

The remarkable results obtained in America with the Pyle National Electric Head-light for locomotives have frequently been referred to in the American railway and engineering press, and they have always provided astonishing reading for people in England where locomotive head-lights are only used as indicators to signalmen as to the class of train approaching, and not, as in America, India, Africa, Australia, &c., for lighting up the track ahead. But although powerful electric head-lights are not required on the railways of the United Kingdom, there is a very large field for their adoption elsewhere owing to the railways not being so carefully guarded as they are here.

The Pyle National Electric Head-light has been applied in America to more than 22,000 locomotives and has been undoubtedly instrumental, not only in facilitating the work of the enginemen, but in preventing many accidents which otherwise would have occurred. The light is a strong penetrating and powerful beam, of which an idea may be gathered from the accompanying illustration. The apparatus is by no means complicated, nor is its initial cost a large one. The maintenance cost, including repairs, does not, it is stated, exceed 4s. a month which, in view of the extreme efficiency of the light, can hardly be said to be worth consideration.

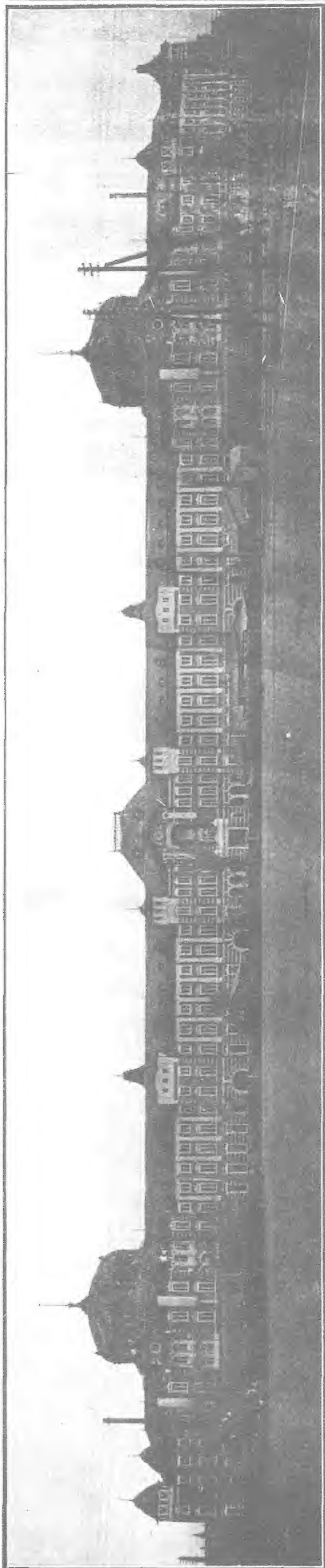
The apparatus consists of a turbo-generating set of sufficient capacity to supply all the lamps required on the locomotive. The rotor of this unit is of the built-up type, steam being led to the vanes through a single nozzle. Attached to the nozzle block are two guide passages which direct the impingement and flow of steam to and from the vanes on the rotor, producing the highest efficiency. The dynamo is enclosed, and of the internal magnetised type with windings proportioned to carry heavy overload without injury to the machine. The arc lamp for the head-light is of simple construction; it can be trimmed quickly and when properly focused, will illuminate the track for fully half-a-mile ahead of the locomotive.

We have only described the apparatus in the briefest possible manner in the foregoing, but what we have said, in conjunction with the illustration appearing herewith, will, we think, suffice to make the simple character of the apparatus and its high efficiency quite clear to those interested.

The address of the Pyle National Head-light Company is 500, Troop Street, Chicago, Ill., U.S.A.



Actual Photograph taken on the Chicago, Rock Island and Pacific R.R., with no other light but the Pyle-National Electric Headlight. The station seen is half a mile from the engine.



The Tokyo Central Railway Station.

TOKYO CENTRAL STATION

The new Station is situated at Yaesucho, Marunouchi, Kojimachiku, and its main building stands looking towards the Imperial Palace over the moat. The building is in the style of the French Renaissance and is an imposing structure combining magnificence with beauty.

The foundation of the building is of wooden piles and concrete. The exterior and partition walls are steel-framed and built of brick and stone. The floor being made of reinforced concrete is fire-proof, and the roof, which is steel-framed, is covered with copper plates and slates.

The main building, whose total length is 1,104 ft. and whose width varies from 66 ft. to 132 ft., covers an area of 9,364 sq. yds., of which 108 sq. yds. are taken up by the single-storied, 224 sq. yds. for the two-storied, and the rest for the three-storied portion of the building. In both southern and northern ends there is a basement. The total area of all the floors is 28,968 sq. yds. The height of the building in the three-storied part is about 54 ft. from the ground level up to the eaves. The top of each of the domes, which cover octagonal concourses on each side of the building, is about 124 ft. above the ground level. The ground floor is 1 ft. 6 inches above the ground, and the height of the

ceiling from the floor is 18 ft. on an average on the ground floor, 24 ft. on the first, and 10 ft. on the second floor. The depth of the basement is about 8 ft. below the ground level.

FACILITIES ON EACH FLOOR.

The entire ground floor is allotted for the use of the station, the right-hand portion being for outbound passengers and the left-hand portion for those inbound, while the middle portion is set apart for the use of the Imperial Household.

In the right-hand portion, where outbound passengers enter the building, are provided an octagonal concourse with two series of booking windows and a row of entrance wickets, a 1st class waiting room for ladies (separate from the other rooms and fitted with lavatories and toilet rooms), a 2nd class waiting room, a 3rd class waiting room, a cloak room, the Ticket Office of the Japan Tourist Bureau, a luggage and parcels forwarding office, two dining rooms, etc. At the back of the main edifice is a single-storied building where there are 1st and 2nd class toilet rooms and lavatories, 3rd class toilet rooms and lavatories, a public-telephone box, a public telegraph office, a book stall, etc.

In the left-hand portion where inbound passengers pass out of the station, there are an octagonal concourse with exit wickets, a waiting room, a ladies' waiting room, ladies' toilet rooms and lavatories, a luggage and parcels claiming office, two cloak rooms, public telephone boxes, etc., and in the single-storied building attached to the back of the main structure are found toilet rooms and lavatories.

THE IMPERIAL SECTION.

The Imperial portion in the centre has a frontage of about 112 ft. and covers an area of 1,100 sq. yds. It contains the Emperor's waiting room and accessory rooms, a hall, two waiting rooms, a porch, a verandah, a corridor, and a passage to the platform, etc. The Emperor's waiting room is a single-storied building. In front is a broad carriage drive having a double approach to the Imperial entrance.

GENERAL ARRANGEMENTS.

About the middle and also in the southern portion there is an entrance to the hotel upstairs.

Two passages run through the building from the front to the rear to right and left of the central portion, and provide for the carriage of luggage and parcels by wagons direct from and to the back of the building.

The remaining portion of the ground floor is used as station office rooms.

As to the basements, the one at the southern end is provided with a boiler room, a kitchen, stores for provisions and table-ware, a scullery, etc., and the one at the northern end with a boiler-room only. The boilers are used for heating purposes and the other facilities for the service of the dining rooms. Arrangements are so made that the meals may be cooked in the basement and brought up in a kitchen lift to the dining rooms on the ground and first floor.

At the southern end of the first floor there are three dining rooms varying in size, one of them being much larger than the other two, so that a very large party can be served at one time. Smaller rooms are provided in combination with these dining rooms, and toilet rooms and lavatories are attached for the use of the guests. The other parts of the right half of the second floor are to be made into a hotel and the rest of these floors used as office rooms.

There are seven staircases leading from the ground floor to the second floor. A lift is also provided in each of these three places. Besides these seven staircases there is a staircase from the ground floor to the first and two from the first to the second floor. The staircase in the Imperial portion is steel-framed and overlaid with marble, while the remaining ones are all of iron.

In the interior of the building, the floor in the Imperial portion is in parquetry or of marble. In the other rooms on the ground floor, tiles or artificial stone or asphalt plates are laid on concrete, and on the first and second floor Spruce Fir, Deal (Sawara) covers fire-proof concrete. The skirtings of each room

on the ground floor are of marble and artificial stone and the panels and chair rails are mainly of Spruce Fir (Hinoki) and Spruce Fir, Deal (Sawara).

Most of the rooms have plaster ceilings, while the picturesque patterns decorating the interior of all the rooms are different in different rooms. The purlins and common rafters of the roof are of *thujopsis dolabrata*, and the roof is covered with copper plates and slates.

COST OF THE WHOLE ENTERPRISE.

	Yen.
The new Tokyo Station Main building	2,870,142
The new Shimbashi Station Main building	243,164
The new Yokohama Station Main building and other	about 400,000
New line between the present Shimbashi to Hodogaya	about 12,000,000
New line between Hamamatsu-cho and Tokyo	294,286
New bridge over the river Rokugo, about	670,000
Total	16,477,592

The new stations and tracks were opened to traffic on Sunday, December 20. The Central Station will be christened Tokyo Station. The new station at Yokohama is to be called, for the time being, Takashima-cho Station. The present Shimbashi is to be converted into a freight depot and the new Karasumori Station will be called "Shimbashi."

The present local trains running only between Shimbashi and Yokohama or *vice versa* are to be replaced by electric cars, the other trains running beyond Yokohama remaining as they are at present, for the time being. In Tokyo all the trains and electric cars will depart from and arrive at Tokyo Station and in Yokohama, electric cars will not go farther than Takashima-cho until the city line in Yokohama is completed, while all the trains will call at the present Yokohama Station, except the long distance trains such as for Kobe, Shimonoseki, etc., which will pass Hiranuma as at present.

The above-mentioned traffic system is temporary and a new system will be enforced when the unfinished part of the work is ready for traffic.

Each motor car has four motors each with a capacity of 100 horse-power and the maximum speed is 50 miles per hour. It has a multiple unit controller and a pantograph instead of a pole. The catenary system has been adopted all the way, while the electric system available for traction is from Tokyo Station down to Shinagawa low tension direct current (600 volts) and from Shinagawa beyond, high tension direct current (1,200 volts).

The classes of the cars will be 2nd and 3rd and two motor cars are combined at a running, except in rush hours when a trailer will be put in between the motor cars. The capacity of a train in rush hours will be 2nd class 50 and 3rd class 210 passengers and in the other hours, 2nd class 24 and 3rd class 154 passengers. (*Japan Mail*)

DEVELOPMENT OF RUSSIAN RAILROADS.

According to the Russian press, the Ministry of Ways of Communication has announced that the mileage of Russian railroads is 43,788, of which 29,594 miles belong to Government railroads. In addition, the railroads in Finland cover 2,430 miles and the Eastern Chinese Railroad, 1,073 miles. There are also temporary lines covering 2,031 miles. Of lines under construction there are 5,657 miles, and of lines for the construction of which permission has been granted, 3,899 miles.

RECEIPTS SHOW LARGE INCREASES.

The gross receipts of all the railroads in the first 11 months of 1913 amounted to G. \$545,900,000, exceeding the receipts of the corresponding period of 1912 by \$40,685,000. The gross receipts of the Government railroads were \$364,105,000. The

number of passengers was 248,000,000, and the freight carried amounted to 262,000,000 short tons.

During January, 1914, receipts from the sale of passenger railroad tickets amounted to \$5,908,595 for Government lines, and \$2,028,070 for private lines, compared with \$5,303,470 and \$1,823,100, respectively, in January, 1913. The receipts for goods carried by slow freight during that month totaled \$25,925,100 for Government railways, and \$10,755,260 for private railroads. The corresponding receipts in 1913 were \$23,377,910 and \$9,742,770. The total gross receipts for the Government railroads were \$36,262,180 and for private railways \$14,269,105, whereas in January, 1913, they amounted to \$32,423,370 and \$12,976,970, respectively.

ADDITIONS TO ROLLING STOCK.

One of the principal reasons for the recent delays in the shipment of grain was the insufficient rolling stock on the railways. According to instructions from the Ministry of Ways of Communication, the private railway companies were to add 9,000 new freight cars to their rolling stock at the beginning of this crop season, the new cars being distributed as follows: South-eastern Railways, 3,000 cars; Vladikavkas Railway, 1,850; Ryazan-Ural Railway, 1,331; Moscow-Windau-Rybinsk Railway, 230; Moscow-Kazan Railway, 1,000; Moscow-Kief-Voronezh Railway, 1,700; North Donetzky Railway, 137. However, in consequence of the late placing of orders, a considerable number of these new cars will not be delivered before January 1, 1915.

To prevent such an occurrence in the future and to increase the capacity of the railways in accordance with the expected growth of traffic, the Ministry of Ways of Communication has decided to instruct the private railways to place orders for new cars in time to make them available for the transportation of the 1915 crop. According to the calculation of the ministry, the private railways must construct 18,500 new freight cars, distributed as follows: Southeastern Railway, 4,400 cars; Vladikavkas Railway, 2,850; Ryazan-Ural Railway, 3,400; Moscow-Windau-Rybinsk Railway, 1,650; Moscow-Kazan Railway, 1,825; Moscow-Kief-Voronezh Railway, 1,800; North Donetzky Railway, 2,500; Bielgorod-Sumy Railway, 100.

The Ministry of Ways of Communication reports that 120,000 railway cars have been ordered for the Russian railroads, to be delivered within four years.

THE PHILIPPINE CARNIVAL

The Philippine Carnival is to be held at Manila from January 30 to February 7 this year. In spite of the war it is felt that this Festival which has in past years done so much to make Manila better known to the world should not be abandoned. On the contrary every effort is to be made to make the 1915 Carnival the greatest festival ever known in the Far East. The unqualified support of the Insular Government is being given and there is every reason to believe that the 1915 Carnival will achieve even greater success than its predecessors.

NEW ENTERPRISES AND EXPERIMENTS IN FORMOSA

Several new enterprises were started in Formosa in 1913. Among these may be mentioned the planting of coconuts in the south and experiments with teak forestry also in the south. Both these enterprises give promise of success, though teak seedlings failed to grow in the northern part of the island. Government aid will be given and it is intended to plant 6,000 acres with teak seedlings.

A new fiber material was reported, made from the fruit of a tree and known as "hanshi-men." It seems to be something between cotton and silk. A company with a capital of 1,000,000 yen (\$500,000) was organized to grow hemp to compete with the Manila article; the results, however, were not satisfactory. Cotton seems to do well in the vicinity of Kagi, and a short ton of seeds was imported from the United States for planting. Experiments were made with grape cultivation near Shinchiku with very promising results. Whale fishing after the Norwegian system was started off Koshun, south Taiwan. Boats equipped with oil engines (Japanese) are now used by the fishermen of the Pescadores.

TOKYO'S BIG STORE



The Mitsukoshi Department Store, Tokyo.

THE NEW HOME OF THE MITSUKOSHI

In the year 1900 the Directors of the Mitsukoshi Co., Ltd. decided to have a new place of business and forthwith commissioned Mr. Tamisuke Yokokawa, a well known Japanese architect and engineer, to plan and build it, he being instructed to make it the most imposing structure of its kind in Tokyo. The result is a great palace of Art and Commerce, towering high over the Nihonbashi and provided with every appliance to meet the twentieth century requirements. A magnificent white building of seven stories with a spacious basement and a roof-garden, it occupies one of the finest corner sites in the city of Tokyo. It has a frontage of one hundred and twenty feet on Muromachi and a depth of one hundred and eighty feet on Surugacho, while its total height is one hundred and eighty feet. The great edifice is of pure Renaissance style and is built of iron and concrete, while its accommodations are superb, with the very latest equipments and apparatus. Especially fine are its fire prevention devices, the management having been particularly painstaking to make them most complete. Several automatic sprinklers made by Messrs. Mather and Pratt of England are provided at the right places throughout the building. Six passenger elevators from Messrs. Otis of New York, (two for employees only) are in the building, besides an escalator which is situated at the left of the main stair-way. The mail chutes for the convenience of customers and visitors are installed alongside of the elevators. The cash received for goods is conveyed through pneumatic tubes from all parts of the store to the main cashier's desk on the ground floor. Every means is provided for the thorough ventilation of the building. The basement is chiefly occupied by an engine room, a furnace, elevator machine room and also a cold storage room.

The entire eastern side of the first floor is taken up by show windows paneled with the finest plate glass specially imported from America. The second and upper floors may be reached by the passenger elevators, the escalator, or by going up flights of staircases of which there are three, the main one running up near the court and the other two in two corners of the building.

The second, third and fourth floors are used as salesrooms. The first floor facing Muromachi, is chiefly devoted to the display of Toilet articles, Perfumery, Shoes and Trunks, Japanese foot-gear and umbrellas. The newly organized department for the sale of Provisions, Wines, Table Wares, etc., is also situated here. The smoking room, to the left of the main entrance, and the Information and Adjusting offices to the right are found on the ground floor. The second floor is devoted to the sale and exhibition of cotton and silk goods, for domestic consumption.

A parlor decorated and furnished in Adams style is situated near the elevators.

A Dress Pattern room and a Special-order room for the use of customers who wish to make selection of goods at their ease, are on the second floor.

The largest part of the third floor is taken up by the departments of Foreign Tailoring, Foreign Tourists, Watches and Jewellery, Children's Stationery, Hair Ornaments, Toys, Shawls, Ready-made articles, &c., &c. The sitting room on this floor is furnished and decorated in Jacobean style.

On the fourth floor are exhibited Japanese and European Furniture in a great variety, including Carpets, Rugs, Upholstering stuffs, Damasks, &c.

On this floor are model rooms, viz. a drawing room in Louis XVI, a dining room in Elizabethan, a bed room in Adams and a library in modern English styles. A large space on this floor is given over to customers' and visitors' dining room.

A richly decorated and furnished drawing room in Louis XVI style is situated at the southeast corner, near the passenger elevator, and is intended for the use of distinguished guests and visitors. In the northern part of the floor are situated the Library, Reference rooms, Doctors' office, Designs & Designing rooms, Editors' and Publishing office.

The fifth floor contains a Japanese Fine Arts gallery, a Model Japanese Sitting room, also the newly organized department for selling Japanese teas and ceremonial tea-utensils.

Mail Order Department and Accountants' offices are on this floor, also a department for executing government orders and the Decorators' room at the northern end of the floor.

The Directors' rooms and their council hall are on this floor, as are also separate rooms for the General Manager, the Chief Secretary, and the Corresponding Secretary.

Several desks for cashiers are placed in different parts of the floors and the packages collected from different departments are carried down by means of spiral chutes.



The Rotunda of the Mitsukoshi Store, Tokyo.



The Mitsukoshi: Provision Department.



Fancy Goods and Bag Department.

The roof-garden is one of the attractions of the New Mitsukoshi Establishment. It has a tower from which a fine bird's-eye view of the city may be had, and also a culinary room where all kinds of food are cooked and served in the dining room on the fourth floor. A photographic gallery is located just below the tower, and near-by is a greenhouse, where flowers and plants are sold.

There is a music pavilion situated near a very picturesque harbour surrounded by flower-beds. At the left hand corner of the roof-garden is a torii or gate which leads to a shrine dedicated to Inari, the God of Rice. Just facing the pavilion is a delightful little pond with a fountain and on both sides of the pond are artistically arranged flower-beds of rare flowers.

To the right, up a small flight of stairs you come to a pretty wistariat rellis. Here you can rest and enjoy a fine view of the city.

The corridors are alongside of the photographic gallery and the sky-light roof leading to the greenhouse and the tea-room.

WHITE PILLARED ENTRANCE.

The handsome white pillared entrance is guarded on either side by great bronze lions designed by a famous London artist. Within the entrance, standing at the threshold of the great store, the visitor receives an impression of richness and splendour, of spaciousness and good taste that remains with him throughout his tour of the seven stories and finally is capped by the many arrangements for comfort and pleasure to be found on the capacious roof garden, where amid music and flowers, the cool tinkle of a splashing fountain, and soft breezes blowing from off Tokyo Bay he sits him down to marvel over the combined art and skill that have made it all possible.

WORTHY OF ANY WESTERN CITY

If for the moment he is inclined to forget he is in Tokyo and imagine he is at Marshall Fields, Chicago, or Sharrods, London, he has only to glance over to the left hand corner and behold the Shinto shrine to Inari, the God of Rice, properly approached through *torii*. If that does not bring him back to Japan he will have to look through one of the dozen telescopes out over the blue-gray sea of tiled roofs, with temples and palaces supplying the exclamation points. From this roof garden he can stroll into the photographic department and order anything in the photographic line to be found anywhere in the world. In addition to supplies there are two galleries where portraits are taken and if the sitter desires costumes, whatever period of Japanese history desired will be furnished and the sitter dressed by an expert. In the adjoining hot-house rare plants and flowers are found. Orders for special decorations or gifts may be placed here, with the assurance of prompt execution by a trained and skilful artist.

THE MARBLE STAIRWAY.

A conspicuous feature of the main floor is the magnificent-marble stairway that ascends from the main floor of the court up three flights with handsome balcony overhanging from the second floor, the whole lighted by an artistic chandelier of gilt bronze, the first of its kind to be manufactured

in Japan and designed and executed by the firm's own artists and workmen. The clock which faces the main entrance is also a home product and is conspicuous for its beauty of design and richness of material, being of solid mahogany and gilt, the whole surmounted by a gilt figure of Mercury several feet high. At the right of the main entrance is the information bureau where foreign visitors will find in addition to ordinary facilities of such a bureau, English or French speaking guides who will aid them in their purchasing.

A BRIEF HISTORY OF THE MITSUKOSHI

The Mitsukoshi is the oldest and largest retail dry goods store in Japan, its foundation dating back to the first year of Yempo (1673 A.D.) It originally did business under the firm name of Yechigoya, known also as Mitsui Dry Goods Store until its present name was adopted in 1904, with some changes in its organization, its proprietorship still remaining in the famous Mitsui family.

Owing to the high quality of goods handled, the store enjoys world-wide reputation.

It was one of the first Japanese establishments to introduce the Western methods of doing business and to adopt up-to-date appliances.

The policy of the founder of this famous house was, as it has been always that of his successors, to supply the public with the best and most reliable articles at the lowest possible prices. At first the firm dealt exclusively in cotton and silk goods, but later gradually increased its assortment of stock.

At present the Mitsukoshi employs by far the largest number of employees and does the largest amount of business in this country, of any store carrying most extensive stocks of silks and silk goods, in fact, merchandise of every description to meet the requirements of all classes of people.



Bronze Lion at Entrance to Mitsukoshi Store.



The Roof Garden, Mitsukoshi Store

TRADE CONDITIONS IN CHEFOO

(VICE-CONSUL CRAWFORD M. BISHOP, CHEFOO)



CHEFOO: Fish Market.



Customs Wharf.

The most important event of the past year (1913) was the formation in May of the Chefoo Harbor Improvement Commission for the construction of a breakwater, to be paid for by the collection of a surtax on imports. Engineers have been engaged and have already drawn up a tentative plan which has received the approval of the consular body. Acting under instructions from Peking the customs officials put into operation on July 1 the tariff of surtaxes to cover the cost of construction. Collections for the first six months exceeded previous estimates by 14 per cent, a striking commentary on the increased trade of the port. Included in the tariff are port dues on shipping of \$0.015 per ton, and wharfage dues, for steamers, on merchandise of 6½ per cent of the duty (about 5 per cent). The area of the inclosed harbor is expected to be about 250 acres. The necessity for the breakwater is shown by the fact that work in the harbor was impossible for 33½ days last year on account of weather conditions.

Plans for the construction of a railway into the interior have not made much headway, negotiations between the local people and the central Government having resulted merely in an understanding that the line when built shall be a governmental and not a commercial undertaking. In the meanwhile the Government has granted Germany two important concessions for the construction of railways in the Province; one, from T'sinanfu to the Peking-Hankow Railway near Shuntefu, may

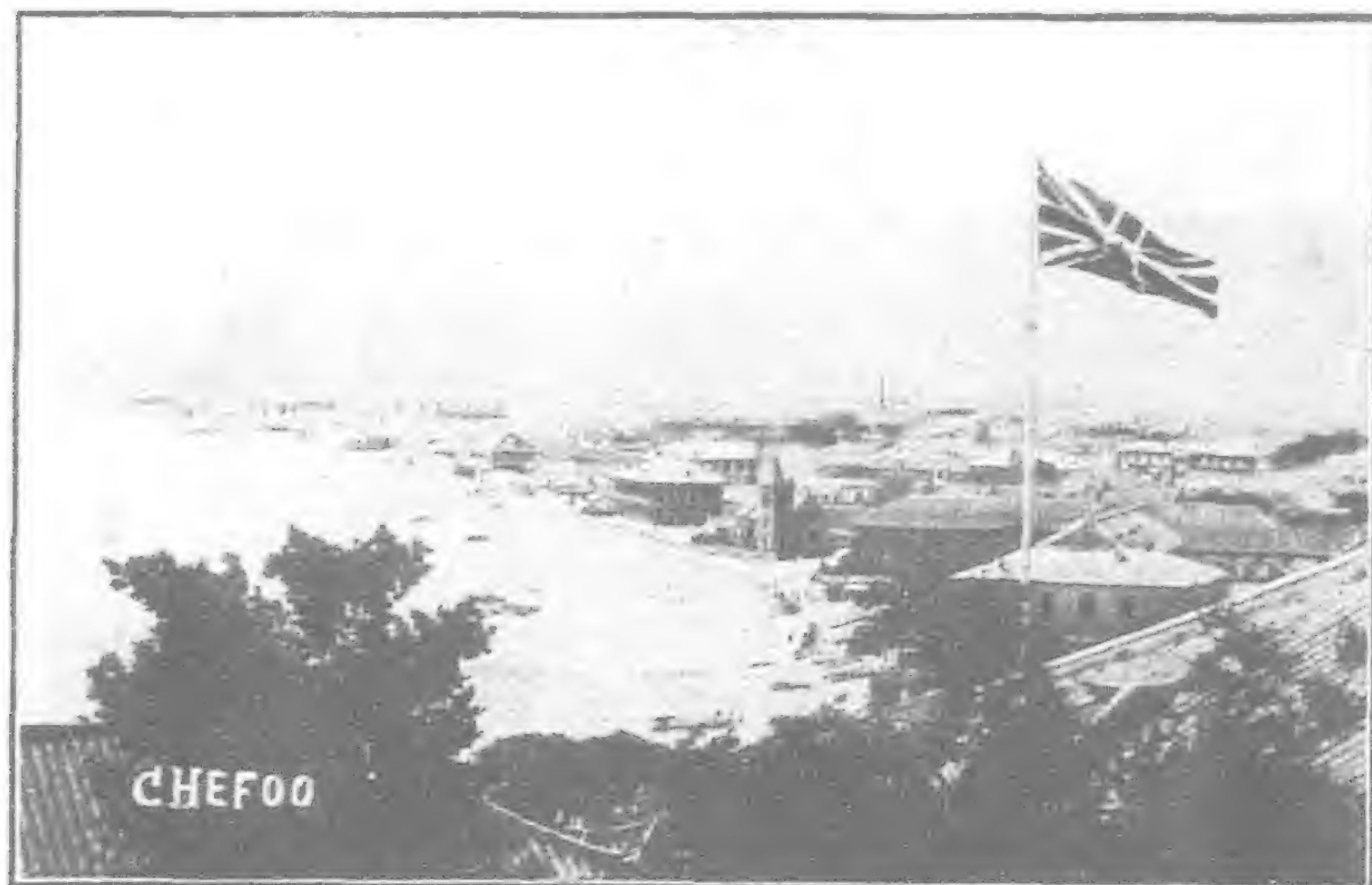
be of importance in the construction of a line from Chefoo into the interior.

Both imports and exports improved during the year, and in spite of the prohibition of opium during the latter half of the year, the net value of the trade of the port exceeded that of the preceding year by \$2,226,000. The suppression of the cultivation of native opium and the consequent shortage of supplies, created a brisk trade in Indian Malwa opium in the first half of the year. The imports of Malwa opium during that period amounted to over 40,000 pounds as compared with 52,000 for the whole of 1912. From June 15 the imports of all kinds of opium into the Province of Shantung were prohibited. At the same time the authorities prohibited the sale or smoking of opium, and the revenue derived from opium divans, etc., ceased.

An electric lighting plant has been established, and machinery and materials imported, but it is not yet in actual operation. The capital was furnished by Chinese, the engineers are Japanese, and the materials came from Germany and Japan.

BRANCH OF THE BANK OF COMMUNICATIONS—FOREIGN RESIDENTS.

Imports of treasure decreased by \$1,201,400, the lowest for the decade; and exports decreased by \$371,000. Improved local conditions and good banking facilities rendered the movement of



CHEFOO: East Beach from Consular Hill.



Consular Hill and Surrounding Country.



Chefoo: Streets in Foreign Settlement.

treasure unnecessary as there has been opened in Chefoo a branch of the Bank of Communications with headquarters in the Board of Communications at Peking.

In Chefoo there are 40 foreign business firms and 1,135 foreign residents. Japan leads, with 20 firms and 483 residents; the United Kingdom is second, with 5 firms and 349 residents; then the United States, with 3 firms and 86 residents. The other countries represented are Austria, Belgium, Denmark, the Netherlands, France, Germany, Italy, Korea, Norway, Russia, and Sweden.

EXPORT AND IMPORT TRADE FOR 1913.

Chefoo's trade with foreign countries was led by Hongkong with a total of \$3,689,389. Japan was first in the import trade, with \$1,716,656, and Hongkong was first in the export trade, receiving goods valued at \$2,205,926. Trade with Russia was increased by \$80,000, while Great Britain's total direct trade with Chefoo was increased by \$10,843. Trade with Germany, France, and Belgium has increased. With Korea, however, it shows a decline of \$465,840. Of the trade with Russia but \$56,395 represented imports, whereas imports received from Great Britain amounted to \$142,400.

The total foreign imports show a decrease in value from \$7,718,021 in 1912 to \$7,676,111 in 1913, but owing to reductions in reexports the net imports increased from \$6,209,168 in 1912 to \$6,607,531, or a gain of \$398,353. Apart from opium the

import duties were generally a little less than in 1912 and the lowest for the decade. The gross imports of native produce show an increase of over \$30,000, and as the reexports also decreased, the net imports of native produce show an increase of \$1,189,762. The exports of native produce of local origin was similarly increased by \$1,314,367. Thus the net value of the trade of this port shows an increase of \$2,902,491—from \$20,575,297 in 1912 to \$23,477,788 in 1913.

The summary of the import and export trade, as given by the Chinese Maritime Customs in 1912 and 1913, is as follows (conversions being made on the basis of 71.6 cents to the haikwan tael in 1912 and 74.2 cents in 1913):

Imports and exports.		1912	1913
Imports of foreign goods:			
From foreign countries and Hongkong	\$	5,154,599	\$ 3,867,228
From Chinese ports		4,563,422	3,808,883
Total foreign imports		7,718,021	7,676,111
Total reexported		1,508,853	1,068,580
Net total foreign imports		6,209,168	6,607,531
Imports of native produce			
		7,702,364	7,732,522
Reexports to foreign countries		1,523,431	773,838



Chefoo: Harbor.



Chefoo: View from Temple Hill.



Houses on East Beach, Weihaiwei Road.

Reexports to Chinese ports	1,023,234	613,224
Total native reexports	2,546,665	1,387,062
Net total native imports	5,155,698	6,345,460
Exports native produce of local origin:		
To foreign countries	2,564,359	2,710,252
To Chinese ports	6,646,071	7,814,545
Total exports native produce of local origin	9,210,430	10,524,797
Gross value of trade of port	24,630,815	25,933,429
Net value of trade of port	20,575,297	23,477,788

PRINCIPAL IMPORTS.

The most important direct imports of foreign goods were Japanese sheetings, cotton goods, old iron, rice, coal, flour, ginseng, matches, leather, paper, and sugar. As already stated the net value of imports from foreign countries is in excess of that of the preceding year, and this in spite of the fact that opium was prohibited during the last half of the year. The import of foreign cotton goods, in general, has increased, but a decrease in the imports of American goods and advance in those of Japanese goods is noticeable. Woolen goods were generally about the same as for the last few years. Metals show considerable improvement, especially old iron. There was a decrease of 8,000,000 pounds in the importation of foreign flour, which was replaced by native flour. No direct shipment of American kerosene oil arrived during the year and reexports from stock, amounting to 718,300 gallons, exceeded the imports (271,050 gallons) from coast ports. Nearly 500,000 gallons of Sumatra oil were imported, the largest quantity in several years. The imports of foreign refined sugar, chiefly from Hongkong, showed an increase, also white sugar, but brown sugar showed considerable decline.

Of imports of Chinese goods, rice shows an increase of 12,000,000 pounds. The imports of coal increased, and the imports of cocoons were greater than in 1912, the 1912 winter crop being a very good one both in quantity and quality. The imports of Chinese raw sugars were considerably less than in 1912, brown sugar being 1,407,133 pounds less, but native white sugar was increased by 590,000 pounds. Foreign Hongkong refined sugar is rapidly replacing the native sugars. Of imports through the native customs, beans and Indian corn declined. The imports of timber increased from 64,176 pieces in 1912 to 194,665 in 1913, and paper increased by 1,590,533 pounds.

The following table shows the important imports at Chefoo in 1912 and 1913:

Articles.	1912	1913
Opium pounds	89,859	46,133

Foreign cotton goods:

Shirtings, plain, gray .. pieces ..	29,245	35,420
Sheetings do ..	243,144	255,121
Shirtings, plain, white .. pieces ..	74,588	95,720
Drills do ..	29,097	18,452
Jeans do ..	51,203	65,363
T' cloths do ..	38,871	50,190
Cotton, Italians do ..	49,481	63,052
Cotton, lastings do ..	11,012	15,676
Japanese cotton cloth .. yards ..	708,476	653,945
Other piece goods .. pieces ..	121,412	137,715
Handkerchiefs dozen ..	8,750	16,009
Towels do ..	28,775	37,374
Cotton yarn pounds ..	4,910,000	6,719,065

Native cotton goods:

Sheetings pieces ..	38,500	33,544
Cotton yarn pounds ..	1,801,866	250,533
Nankeens do ..	230,933	322,400

Woolen goods:

Broadcloth yards ..	3,140	3,070
Lastings pieces ..	190	620
Long ells do ..	665	830
Spanish stripes yards ..	3,516	4,312

Foreign metals:

Iron and mild steel—

New pounds ..	1,687,200	1,202,000
Old do ..	9,420,800	11,344,133
Steel, bamboo do ..	350,500	730,133
Other do ..	159,833	238,655

IMPORTS OF NATIVE GOODS.

The principal imports through the native customs, consisting of goods received from outlying country districts, were as follows:

Articles.	1912	1913
Beans pounds ..	131,654,400	107,348,400
Bean cake do ..	787,800	2,988,066
Corn, Indian do ..	29,066,933	20,414,266
Cotton, raw do ..	295,600	178,000
Mats, reed pieces ..	743,066	842,312
Medicines, value (U.S. currency) ..	\$5,692	\$14,351
Millet pounds ..	5,197,333	5,571,333
Paper do ..	6,920,000	8,510,533
Samshu do ..	678,800	828,133
Silk:		
Raw, wild do ..	2,666	..
Cocoons do ..	15,402,800	12,392,000
Timber pieces ..	64,176	194,665
Vermicelli pounds ..	5,506,100	6,673,066



Chefoo: Harbor in Winter.



Chefoo: Coolies Bringing in Produce.



Chefoo: Mule Transport.

EXPORT TRADE.

Local produce exported to foreign countries and to Chinese ports increased in value in every case. While the exports of beans, bean oil, and bean cake decreased, fresh eggs, most of which go to Vladivostok, increased. The exports of salt fish nearly doubled those of the preceding year. Fresh fruit, which in 1912 had shown a decided increase over 1911, decreased to less than the figures for 1911 on account of unfavorable weather conditions. There was an increase of over 2,000,000 pounds in

the exports of groundnuts, but shelled nuts decreased over 6,000,000 pounds, partly due to prohibitive freight rates to certain foreign markets. Exports of silk and cotton lace goods increased \$14,840. The exports of hair nets amounted to \$11,130, an increase of more than \$4,452. These nets are made of imported Chinese human hair specially prepared in Europe. The exports of cattle decreased, and amounted to only 96 head, the value of exported cowhides being nearly \$100,000 less than in 1912. Silk of all kinds shows an increase, excepting steam filatures, as none of these are now in operation. The increase in hand filatures was 213,333 pounds. Nearly all the local establishments were running throughout the year. Silk refuse and waste increased over 20 per cent. owing mainly to the fashions prevailing abroad which called for velvets and plushes. The net increase in the year's business in pongee was 104,533 pounds; Australia has also become a customer for this class of goods. The prices of 1912 were not maintained, as qualities were not good on account of the shortage in Nanshans. Prices of Shantungs fell gradually, and at the end of the year were lower than they had been for many years. No straw braid was shipped during the year. The figures for vermicelli were higher than they had been for 10 years, showing an increase of 7,354,677 pounds over 1912.

LIST OF PRINCIPAL EXPORTS.

The principal exports from Chefoo are beans and bean cake, vermicelli, groundnuts, fresh fruits, raw silks and pongees, eggs, salted fish, and licorice. The figures for these and other important exports of Chefoo in 1912 and 1913 are shown in the following table:

Articles.				1912	1913
Almonds	..	pounds	..	620,800	867,600
Bean cake	..	.. do	..	49,591,733	43,981,600
Beans	..	.. do	..	483,866	274,533
Beef	..	.. do	..	442,400	..
Caps, felt	..	.. pieces	..	9,257	5,208
Cattle	..	.. head	..	362	96
Clothing, cotton	..	pounds	..	631,333	276,133
Dates	..	.. do	..	1,248,933	2,315,066
Eggs, fresh	..	.. pieces	..	5,745,090	6,145,310
Fish:					
Dried	..	pounds	..	512,933	340,933
Salt	..	.. do	..	4,270,000	8,083,066
Fishery products	..	.. do	..	324,800	494,133
Fruits, fresh	..	.. do	..	7,909,200	7,704,133
Groundnuts:					
Unshelled	..	.. do	..	4,183,333	6,898,666
Shelled	..	.. do	..	26,276,933	18,771,733
Hides, cow	..	.. do	..	138,100	40,133
Licorice	..	.. do	..	1,491,600	2,065,200
Mats	..	.. pieces	..	26,376	39,965
Medicines	..	pounds	..	557,366	936,533
Oil:					
Bean	..	.. do	..	728,800	1,079,866
Groundnut	..	.. do	..	66,533	30,800
Prawn skins	..	.. do	..	414,000	260,666
Seed, sesamum	..	.. do	..	307,466	19,466
Shoes and boots	..	.. pairs	..	138,429	119,040
Silk:					
Raw, white	..	pounds	..	266	5,733
Yellow	..	.. do	..	28,133	30,800
Raw, wild, hand	..	.. do	..	1,528,266	1,743,466
Steam, raw, wild	..	.. do	..	115,133	78,866
Refuse, raw, wild	..	.. do	..	1,604,466	1,960,800
Pongees	..	.. do	..	855,200	959,733
Soda, native	..	.. do	..	57,600	128,533
Straw braid	..	.. do	..	133	..
Vermicelli	..	.. do	..	29,066,933	36,421,600
Walnuts	..	.. do	..	296,153	511,466
Yeast	..	.. do	..	92,933	51,333

FOREIGN SUNDRIES.

Aniseed	pounds	24,200	53,466
Bags, all kinds ..	pieces	258,325	300,964
Beche de mar ..	pounds	76,300	102,933
Buttons	gross	3,238	3,801
Cigarettes	value	\$53,415	\$46,261
Dyes, analin	do	\$42,934	\$67,137
Flour	pounds	22,306,400	14,314,266
Glass, window ..	boxes	2,986	4,317
Isinglass	pounds	30,000	44,666
Lead, white	do	129,600	..
Matches	gross	1,988,897	2,239,076
Mats, straw	pieces	185,834	274,002
Needles	mille	32,727	101,941

Oil, kerosene:

American	gallons	3,666,200	..
Sumatra	do	198,910	498,700
Paper	pounds	981,600	1,334,800
Pepper, black ..	do	262,000	171,660
Sapan food	do	39,200	..
Seaweed	do	5,350,533	4,515,866
Soda, ash and crystal ..	do	4,261,994	2,356,666
Sugar	do	20,721,400	18,308,266

NATIVE SUNDRIES.

Arsenic	pounds	134,666	226,533
Beans	do	57,214,800	76,128,533
Books, printed ..	do	92,933	146,933
Button, brass ..	gross	475	812
Cigarettes	pounds	272,233	339,333
Coal	tons	56,844	66,655
Cotton, raw	pounds	418,133	491,866
Flour	do	13,863,733	25,127,333
Mats	pieces	45,232	24,676
Hemp	pounds	381,066	545,866
Medicines	do	260,500	655,600
Mushrooms	do	22,533	61,200
Oil, wood	do	1,305,866	1,499,600

Paper:

Joss	do	932,133	..
Other	do	9,051,500	898,533
Preserves	do	153,066	225,333
Rice	do	35,591,066	47,647,646
Samshu	do	2,846,600	4,035,600

Silk:

Raw, wild	do	231,466	149,733
Cocoons	do	16,733,500	21,391,733
Piece goods	do	11,200	42,000
Pongees	do	1,500	2,000
Soda	do	1,134,400	808,666
Sugar, brown	do	4,951,733	4,134,600
Tallow, animal ..	do .. ..	..	105,066
Tea	do	642,800	1,199,866
Tobacco	do	711,167	1,035,999
Varnish	do	16,533	37,000

TRADE WITH THE UNITED STATES.

The total exports to the United States increased from \$26,276 in 1912 to \$72,576 in 1913, an increase of \$46,300. The exports of silk increased from \$21,832 to \$65,633, a gain of \$43,800. The new tariff law of the United States has undoubtedly stimulated trade. The duty in the United States was changed from \$3 per pound to 45 per cent. ad valorem. Thus, 33/34 Shantung, 32 ounces, which formerly paid \$6 per piece, now pay only \$1 per piece. Lace and lace goods increased from \$916 to \$3,139. The exports of hair nets declined, while no human hair was shipped. Walnuts reappeared in the list of exports to the United States.

DECLARED EXPORTS TO THE UNITED STATES.

The declared value of the exports from the Chefoo consular district to the United States during 1912 and 1913 is given in the following table:

Articles.	1912	1913
Hair, human	\$ 815	..
Hair nets	1,395	\$1,140
Lace and lace goods ..	916	3,140
Ore, gold, silver, and copper ..	1,318	..
Silk	21,833	\$65,633
Walnuts .. ..	..	2,664
Total	26,276	72,577

Silk to the amount of \$420 was exported to Hawaii; as against \$641 worth in 1912. Lace and lace goods were exported to Hawaii to the amount of \$522 in 1913; none was exported in 1912.

DIRECT IMPORTS FROM THE UNITED STATES.

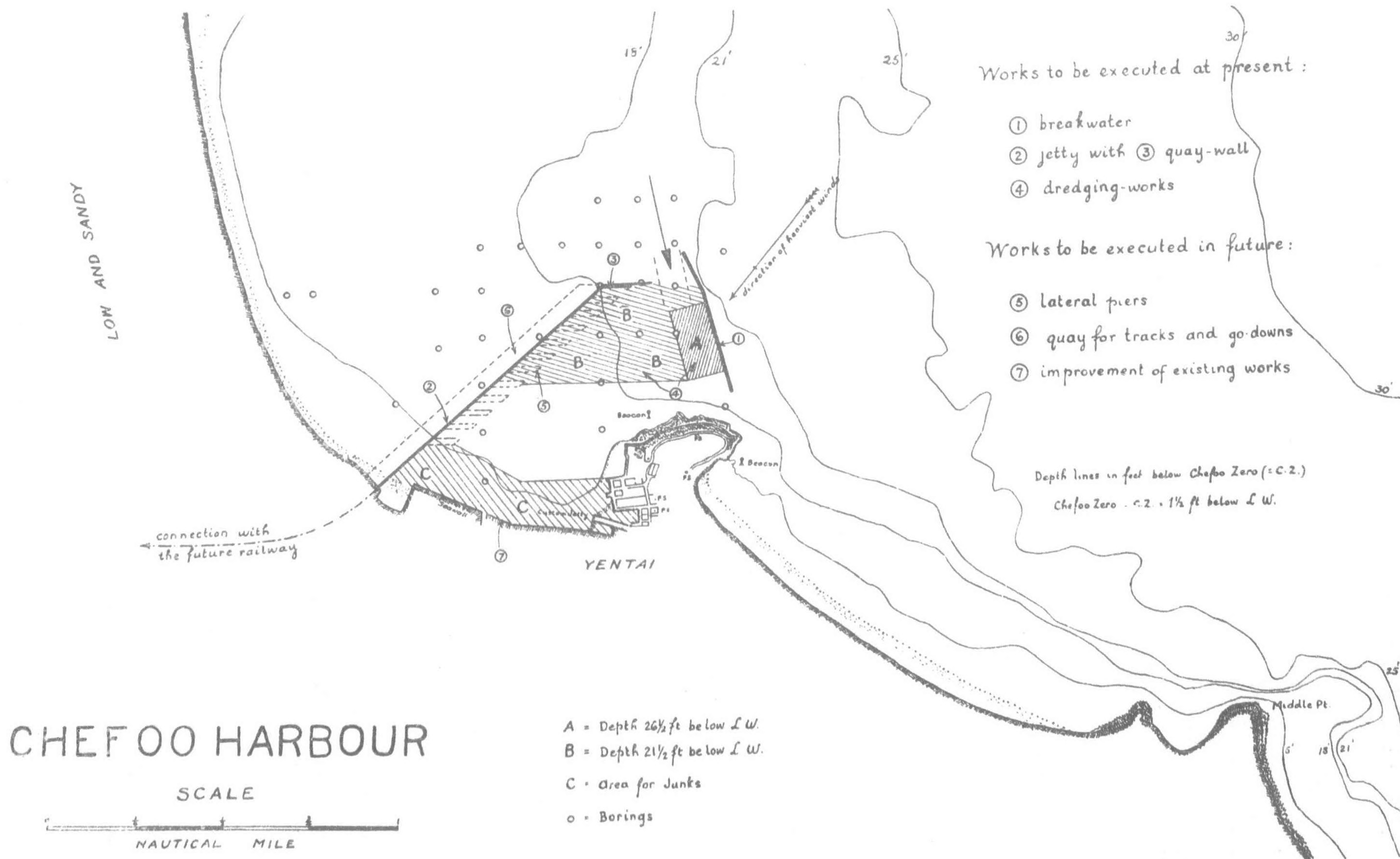
The total value of the direct imports from the United States is given as \$10,085. This does not represent the total imports of American goods, most of which are imported and pay duty at Shanghai or Hongkong, and are reexported to Chefoo.

SHIPPING—PRESENT GROWTH AND PROSPECTS.

There was considerable activity in shipping at Chefoo during 1913, including increases in the number of vessels and in tonnage; the net increases were 373 steamers and 319,313 tons. An important feature has been the increase of Japanese vessels, both in number and tonnage, Japan having 1,749 steamers, representing 994,047 tons, and 486 steamers under inland steam navigation rules, representing 184,194 tons, or a total of 2,235 steamers, of a total of 1,178,241 tons. The United States had 60 steamers, representing a tonnage of 84,536. The second revolution in the south of China caused a temporary suspension of the service of the China Merchants' Steamship Co. in the summer, but there was an increase of 60,000 tons under the Chinese flag. The inland waters traffic also shows an improvement both in number and in tonnage. The native customs report that 500 more junks entered in 1913 than during 1912. This may dispel the fear that the charges for breakwater surtaxes might disturb the native shipping trade of the port. The increase in shipping also helps to explain the excess of 14 per cent over the estimates in the amount of breakwater taxes collected. Statistics show a slight decrease in both arrivals and departures of native passengers during the year, probably caused by the strict surveillance to which passenger traffic was subjected on account of the revolution in the south.

OPPORTUNITIES FOR AMERICAN TRADE IN SHANTUNG.

The Chefoo Harbor Improvement Commission has announced that final plans giving full details for the construction of the breakwater will be ready in the spring, and that after a loan has been secured active work will be started. American firms will have an opportunity to compete with those of other countries in the bids for supplying the materials. The date of the beginning of the construction on the proposed Chefoo-Weihsien railway is still uncertain, the matter being controlled by the Board of Communications at Peking. The early operation of the electric-lighting plant will create a demand for electrical appliances for household uses, the consulate having already received inquiries regarding them. The recent opening of the port of Lungkou, near Chefoo, which has been opened by China voluntarily to foreign trade and which some fear may be a detriment to Chefoo, may, however, tend to stimulate trade with the interior. The lowering of the duty on silk through the operation of the new tariff act should continue to stimulate the export of these goods to the United States. The early opening of the Panama Canal should increase trade with the United States from all the ports of China.



AFFORESTATION AT TSINGTAU

Since modern forestry has, as is generally recognised, reached its highest development in Germany, says the *Japan Herald*, the results obtained in this sphere in the German colony in the Far East have often been admired; thus some particulars as to the afforestation and forest gardens at Tsingtau may be of interest.

As is now the case almost everywhere in China, forests are deficient; the heights in the neighbourhood of Tsingtau fifteen years ago were almost entirely bare and denuded; even grass was almost entirely lacking as the natives uprooted nearly all for fuel. After the disappearance of the protecting grass cover the violent rains of the summer had swept away the scanty remaining soil and formed on the slopes deep ravines; the bare rocky heights stood up with sharp peaks and gaps, reminding the beholder of the Spanish sierras. Moreover the long period of drought, the gross carelessness and ignorance of the Chinese as to the benefits afforded by forests, and the lack of educational materials as to the native trees and shrubs all contributed to make the labors of German experts more difficult. Many extensive and laborious preparations had to be completed before the afforestation itself on a large scale could be begun. Soil had to be carried from the valleys and ravines to fill the holes which had been dug for the transplanted trees; the loose stones were gathered and formed into a protection for them, in order that in the future, as the weathering continued, the roots might bind together the soil that was forming. Especially important was the placing of numerous dams in the ravines, which had to be ready at the beginning of the rainy season. These, in July and August, collected a sufficient supply of water with which, with the help of innumerable coal-oil cans, the young plants could be watered so that they could stand without damage the long dry period from April till the end of June. The parts of the ravines lying below the dams were protected from further falling-in of the walls and further denudation of the soil by rains and, after being partially filled up, could also be gradually planted.

For the afforestations trees from all the four quarters of the earth except Africa, which might for climatic reasons be serviceable, were experimentally planted. But of these experiments, numbering in all about 650 with trees in seedbeds, only a few have succeeded. The winter, or the wetness of the summer, or the long periods of drought, destroyed many experimental plants; moreover the Chinese country people were ignorantly hostile to the experiments. Very often the laboriously planted and watered young plants were torn up again at night. In spite of opposition and difficulties the aim has now been attained. The heights in the neighbourhood of Tsingtau, especially the Illisberg, at the foot of which lies the main forestry station, are wooded, the rocks are clad with green, and the vegetation and the thick grass prevent further inundations. In the level places there are already something like the young forests of Germany, and in summer there is in some places an arch of vegetation thick enough to shut out the sky. Re-plantations have also begun; the colony's requirement in fuel-wood is covered and timber is already being sold to the mines: in short an afforestation of the greatest importance as a model has succeeded.

The timber trees planted at Tsingtau are the Japanese white pine, the larch, cryptomeria, cedar and other conifers, and of foliage trees especially the chestnut, ash, maple, plane, oak, elm, alder, and acacia. For forestry on a large scale, however, only the pine and the two last-named are of much importance. The young growth of pines which covers most of the heights is good and, in spite of the unfavorable nature of the soil, by far better than that of the native pines; their further thriving must be awaited before a safe opinion can be given as to their availability; but even a moderate crop of the first generation will, in view of the high prices of wood in the Far East, pay a good interest on the enterprise. As the Chinese country-people are very careless with regard to risks of fire, and as pine trees easily catch fire, one often sees in the plantations, among the larger areas planted with pines smaller ones interposed planted with foliage-trees in order to make this danger easier to meet. In the Orient the pine is often

used as a Christmas-tree, and specially fine specimens are occasionally sent as far as Sydney or Singapore or far into the interior. Plane-trees and maples are used only for ornament. The oak is not suitable for Tsingtau and of the willows only the silver willow is grown for osier-work. By the watercourses, however, in the neighbourhood of the hamlets and in other places most suitable for them, especially at Haipota, are valuable thickets of alders thriving splendidly. But the most important and the commonest tree in the Tsingtau forest and also in the gardens and streets of the colony is the acacia. Its abundance has caused the English to nickname the Colony "Acacia Peninsula"; and the tree has been widely cultivated in North China in imitation of the Tsingtau example. In 1910 alone 150,000,000 acacia plants were raised there, to judge from the amount of seed imported. The acacia grows quickly and lustily and is easy to plant even for unskilled Chinese. It suits the ground excellently and demands little attention, being hardy to the climate. Its growth is shown by the following example: an acacia plantation set in 1902 on the south-eastern slope of the Illisberg yielded good mining-timber in the felling of 1907 and again in 1912 and in the autumn of 1913 the new trees are again from 12 to 15 feet high.

The acacia yields excellent fuelwood, also good mining-timber; its flowers have for some time been used by the poorer Chinese country people as a substitute for tea, and quantities of them are sent into the interior. In order to obtain charcoal, which is much used in China, the forestry officials have for some time been using a process which unites German and Chinese experiences and methods of charcoal-burning, and from these experiments also acacia appears to be the best material. The good results which the Tsingtau Forestry Bureau obtained with the acacia caused the Administration of the Shantung Railway, of the Ching-Ching Mines and of the Kaiping Mines, partly under German direction, to afforest their suitable land with acacia in order later on to save the costly import of timber.

Just as formerly the Chinese Governors of the northern provinces sent officials to Tsingtau to be educated, so a committee at Shanghai sent six Chinese forestry-students to the German colony in order first to spend a year in the practical work and then to study the science of forestry for two years. The Administration of the Tientsin-Pukow Railway sent eight of their station-masters to go through a number of practical courses and then put their knowledge to use on the railway lands. Later a Japanese commission was sent by their Government to Tsingtau to study the German model for the afforestation near Seoul; they received thorough and detailed instruction.

The first task, the afforestation of the environs of Tsingtau, is finished; the green hills and valleys offer to the traveller a picture rare in China, and to the inhabitants and visitors to the bathing resort, beautiful shady walks. Up till now about 1,200 hectares have been afforested. Steps were to be taken to afforest the mountains in the interior of the Protectorate which are Treasury lands and not cultivated by the Chinese. From fifty to a hundred hectares will be brought under cultivation annually; the Prinz Heinrich Berg and the Laushange Mts. can be afforested for two-thirds of their height as the soil is not bad. The Chinese inhabitants will be employed in the work in the slack times of their ordinary field labours and will be paid in kind by presents of fruit and mulberry trees. The forestry work can thus be done cheaply and will especially attract the Chinese from the fact that the mountain-slopes which they have hitherto despised as worthless will be made to yield them profit.

A feature of the Tsingtau Forest is the great Forest Garden, covering about 80 hectares, which contains tree and plant nurseries, orchards, seed-beds of all kinds and forcing-houses.

As above stated, about 650 experiments have been made in transplanting trees, and now about 20 are still made annually. At present, experiments are being made with the forest trees of Eastern North America, also 121 kinds of ornamental and useful shrubs have been transplanted. The more valuable plants are put in especially suitable and protected places—warmer, moister and

deeper-lying grounds. The vegetable beds are filled in almost every season of the year with seedlings of the most varied kinds and in some of the glass-houses, protected against cold winds, the winter temperature without artificial heating never falls below 3° C. In these may be seen small palms, chrysanthemums, ornamental-leaved plants and rare flowers. In the seed-beds, experiments have also been made with industrial and fodder plants, tobacco and cotton, camphor and olive, sesame, lucerns and many other, and the results noted. As a curious detail it may be stated that *Metaplexis*, a plant of the older Euphorbiaceae which is found as a climber in hedges and on fences, has threads in its seed-capsules which have been investigated by Chemnitz weavers and pronounced suitable for the production of a cheap kind of artificial silk.

In fruit culture, also, the Forest Garden has made numerous experiments. German and Californian fruits have been tried together; of 63 varieties of apple and 68 of pear, however, after repeated experiments only 11 and 8 respectively have been found suitable to the climate. Cherries have succeeded well; there are 48 varieties at Tsingtau; plums cannot withstand the hot rainy season and do not thrive. Berries of various kinds almost all do well. The attempts to grow peaches and apricots were abandoned, as these fruits are already grown to perfection by the Chinese. Experiments in grape growing were also made, but further attempts have been left to the Austrians at Chefoo, whose experiments (which are kept secret) promise to be successful. Of the twelve varieties grown there ten have been successful also at Tsingtau.

The ground at the Forest Garden was of course most carefully prepared; during the first years especially it was thoroughly dug, weeded and raked; also natural and artificial manures have been abundantly employed on it after exact scientific investigation of the soils. The results of the manuring, for example in the increased weight of the grains of cereals, made a great impression on the Chinese.

One of the chief difficulties was the fight against insect pests, both the native and those which were introduced with fruit from America; thus 60 beetle larvæ were found in a cherry-tree. Forest pests have also been a great danger for a long time, but carbolineum, bisulphide of carbon and arsenic, used at the right times and in right proportions have, after many failures, at last had a permanent success.

The pecuniary means for the numerous and extensive experiments of the Forest Bureau have always been placed at its disposal, in right appreciation of the great importance of this work of civilization, by the Reichstag and the Government, which have also furthered the work in every other possible way.

The importance of this work is so universally recognised that it is needless to dwell upon it. It may, however, be mentioned that a comparison, especially with the results of English forest-management, even at Hongkong, as shown by the detailed reports of export German foresters, shows still more clearly the value of what has been accomplished at Tsingtau. This has been recognised by the English themselves, for recently they have been carrying on Indian forestry on German principles and partly under German management. For China, also a country notoriously poor in timber, this work may be a great blessing.

VITICULTURE IN SHANTUNG

Aside from being the center of fruit culture in China, Shantung province raises large quantities of fine grapes, and promises to become a very important wine-making district. In the neighborhood of Tsingtau, mainly on the southern slopes of the Laushan Mountains, many grapes are grown for the fruit only. Large quantities are sent to Shanghai and other places annually, a variety closely resembling the tokay of California predominating. White grapes are also grown, a sort of sweet water and a kind called "markobrunner" being the most common; but blue and black grapes are not found.

Apparently no attempt to produce wine has been made here, but in the Chefoo region, in northeastern Shantung, the industry has progressed much further. On the hills surrounding that city are many terraced vineyards, and an extensive winery has been in operation for years. White wines, red wines, and champagnes of

many varieties are made, but none of the products were placed on the market until the present year.

CHEFOO VINEYARDS AND WINE MAKING

Concerning the wine-making establishment at Chefoo, Mr. Chang Yu, a wealthy Cantonese, conceived the idea of cultivating grapes in China for the purposes of an extensive wine trade. The necessary sanction was obtained from the authorities in 1895. Land was bought on the hills near Chefoo and planted to varieties of grapes from all wine-producing countries under the direction of a European expert, who is still in charge. More land is constantly being acquired in the immediate vicinity and planted as soon as bought, but the price of suitable territory has gone up considerably, mainly because other Chinese have gone into the business. *Phloxera* is stated to have attacked some of the varieties, but never to a disastrous extent, most of the vines seeming apparently immune.

Finding that the supply of native grapes was irregular, while the price was not inexpensive and the quantity of sugar contained therein was not sufficient to produce good wines, Mr. Chang first imported American grape vines so that he could get the necessary supply from his own vineyard. But the attempt resulted in a failure owing to damage done by insects.

In 1902, he imported vines from Austria and planted them on his ranch. The experiment, which was conducted under the supervision of a foreign expert—an Austrian nobleman (Baron M. von Babo) proved to be successful, and consequently the area of the vineyard has been increased from year to year, until now 12 acres of ground are under full cultivation. A glass factory was established under the same management some years ago, where necessary receptacles are being manufactured.

Each fall the entire crop is taken to the winery on the outskirts of the town, and after production the wine is stored in large casks, constructed in sections in Austria, shipped to Chefoo, and set up in the cellars. Every barrel is plainly marked with the variety of wine it contains, together with the year of its production. The cellars took two years to complete and are built below the level of the sea. They are lined with concrete, as it was found that they were otherwise being constantly flooded. As the work was commenced over ten years ago, there is now a large supply of wine on hand, but the first sales were not made until this year. The market is to be exclusively the Chinese coast.

HOG BRISTLES IN CHINA

One of the large exports from China, is black hog bristles. The bulk of these bristles come from the northern China and Manchurian ports, and from there generally find their way to Shanghai, where they are collected by large dealers, assorted into lengths of from 2½ to 6 inches, if they have not been previously assorted, and then exported, to be made into paint brushes and other articles. The assorted bristles are made up into little round bundles, averaging from 2 to 3 inches in diameter.

While the bristle business, on the whole, is increasing, it is, like many other trades, tending to centralization in the large ports, and the smaller coast places figure less and less in the exportation, the main reason being that the facilities for sorting are not sufficient in the small ports. A dealer in an outport who can collect several hundred pounds of bristles a month finds it more to his benefit to send his lots to a large Shanghai wholesaler than to go to the trouble and expense of having them sorted and bundled and then waiting to get together a large enough lot to make it worth his while to export. The China hog, on the whole, is not a large producer of bristles, all his body, except a strip down the back and a larger spot on the neck, being covered with hair only, while the more northern hog of Manchuria and Siberia has a larger part of his skin covered with bristles.

Under normal conditions it takes some 100 coolies to sort and bundle about 50 pounds of bristles a day, averaging, say, one-half pound a man per diem. The total exports of bristles from Shanghai in 1912 were 36,070 piculs pounds, valued at Tls. 2,962,398 this being largely composed of receipts from other ports.

Direct export from Tsingtau during 1913 amounted to 490,000 pounds, valued at \$270,802 gold.

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